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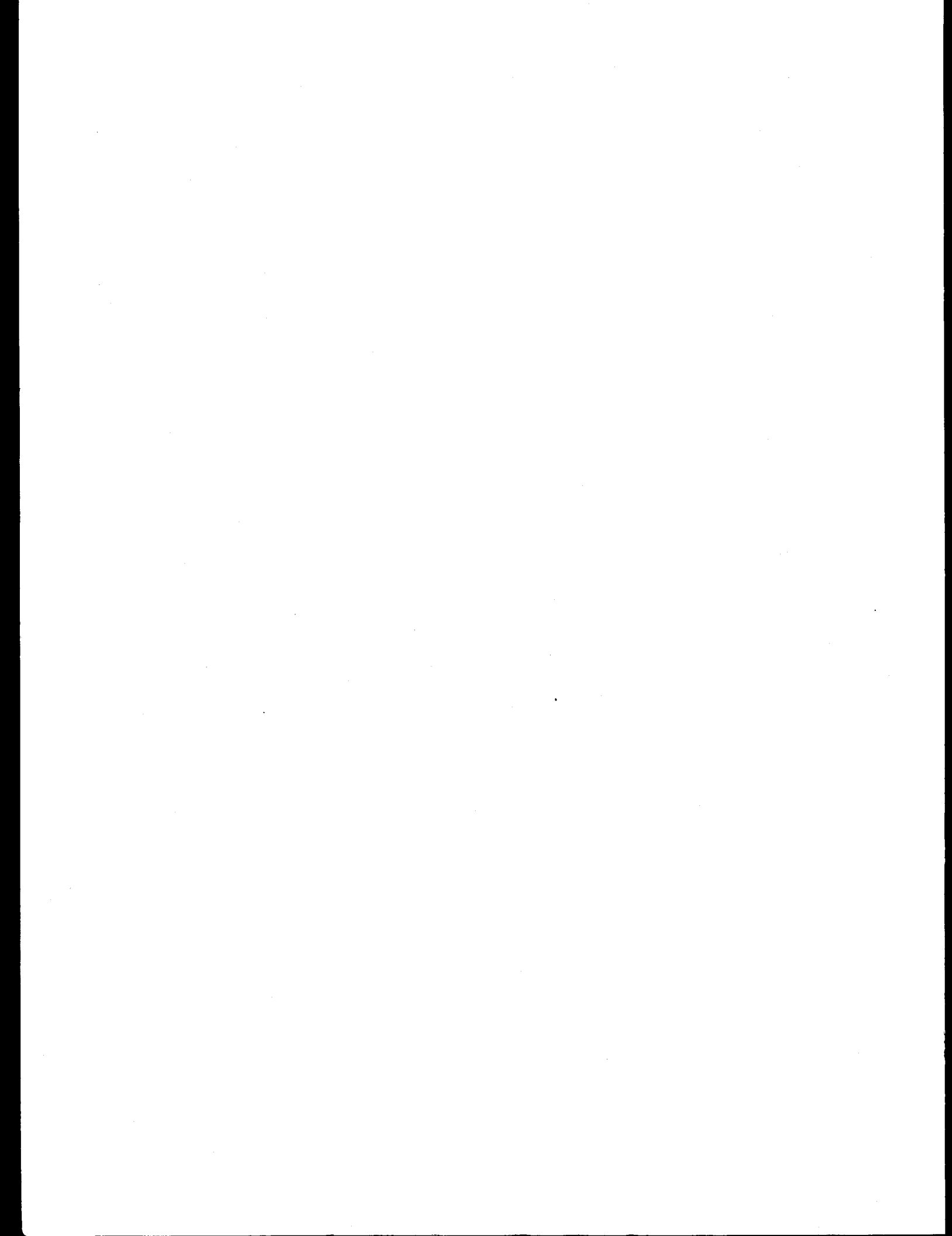
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EXPLANATORY NOTE

Part I is a reprint of the Fifty-Third Annual Report on Medical Education in the United States and Canada published in The Journal of the American Medical Association for September 12, 1953 and the page numbers are those used in The Journal.

Part II contains the Proceedings of the Annual Congress on Medical Education and Licensure held in Chicago on February 8-10, 1953. The complete Proceedings have not previously been published.

A separate table of contents precedes each part.



PART I

FIFTY-THIRD ANNUAL REPORT ON MEDICAL EDUCATION IN THE UNITED STATES AND CANADA BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

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MEDICAL EDUCATION in the UNITED STATES and CANADA

FIFTY-THIRD ANNUAL REPORT ON MEDICAL EDUCATION IN THE UNITED STATES AND CANADA BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

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Introduction

This 53rd annual report on medical education in the United States and Canada, compiled by the Council on Medical Education and Hospitals, covers the period from July 1, 1952, to June 30, 1953. Included in it are data, derived from official sources, concerning medical schools, students, graduates, the relationship of medical education to national defense, and other topics of importance. This annual compilation is an important reference source for many individuals and organizations that are concerned with medical education. The Council is grateful to the many persons who have contributed to the development of the report and wishes particularly to thank the administrative officers of the medical schools who, at the expense of much time and effort, have provided most of the basic information upon which the report is based.

Publication of the final report of the Survey of Medical Education¹ was an event of major importance this year. Data published annually in this report have reflected financial, organizational, and other problems of the medical schools and have reported the planning and experimentation of the schools to meet these problems. All of those concerned with medical education will therefore welcome an opportunity to review their own problems and plans in light of the careful analyses and recommendations, covering all phases of our medical schools' activities, which are contained in the survey report.

The financial support of medical education continues as a problem of immediate and pressing importance. As is noted in the section on financial support, significant increases in the annual income of the schools has been offset to a considerable degree by expansion in the activities of the schools and by inflationary increases in costs. Although tremendous expenditures have been made by the schools in recent years for the construction of new facilities, a considerable proportion of these expenditures have been for clinical facilities and many schools are still particularly in need of funds for the improvement of their

basic science facilities. All schools have not participated equally in the increased support that has been made available, and several have had so little success as to place their continued existence in doubt. However, there are new medical schools in the process of development that seem assured of substantial and continuing support.

Among the many curriculum experiments that have been initiated by the schools, the one that will attract the greatest interest is that being carried on at Western Reserve University. This program is organized completely along the lines of correlative, multi-disciplined teaching and discards the traditional division of teaching by special basic science and clinical disciplines. The first class to receive instruction under this plan was enrolled in 1952-1953. A brief description of the program is contained in the section on major developments, and a panel discussion of it, by members of the Western Reserve faculty, will be found in the Proceedings of the Annual Congress on Medical Education and Licensure for 1953.

Another event that will attract attention is the leveling off in student enrollment. Both last year's freshman class and the expected freshman class for 1953-1954 are slightly smaller than the entering class of 1951-1952. This may be regarded as a temporary readjustment following a period of rapid expansion, and further increases in enrollments are expected when expansion programs now under construction are completed and when new schools now being planned are in full operation.

Certainly more important than this temporary leveling off in the expansion of enrollments of undergraduate medical students is the absence of any increase in the number of graduate students in the basic medical sciences. Continuing failure to increase the supply of scientists in these already undermanned areas will have a serious effect not only upon research programs but upon the quality of the basic educational programs in medicine.

1. Deitrick, J. E., and Berson, R. C.: *Medical Schools in the United States at Mid-Century*, New York, McGraw-Hill Book Co., 1953.

This year, for the first time, information is presented on the scholarship and loan funds available to undergraduate students of medicine. These data make it clear that while some schools have relatively large sums for such purposes, a number of other schools can offer little such help to their students.

At this writing, it is too early to tell what the full impact of the Korean truce on the medical schools will be. At least, for a short term, military calls for medical officers may decrease somewhat and the drain on medical faculties may be eased. Nevertheless, a significant degree of mobilization is certain to continue and the need for preparation of medical students for military and civil defense services will persist. Long range plans for medical education for national defense have been under development by the Joint Committee on Medical Education in Time of National Emergency since June of 1950. The section on Medical Education and National Defense reports the initiation, by the Subcommittee on Medical Education for National Defense, of a new experimental program to prepare undergraduate students for their roles in military service and civil defense.

Survey of Medical Education

Previous Educational Numbers have carried brief progress reports of the Survey of Medical Education, which was organized in 1947 under the joint sponsorship of the Council on Medical Education and Hospitals and the Association of American Medical Colleges. It was financed by the American Medical Association, the Association of American Medical Colleges, and a grant from the W. K. Kellogg Foundation. During the past year the final report of the survey was completed and published in book form.¹ The report is based on the findings of detailed visits by the staff of the survey to 41 medical schools, on additional information provided in response to questionnaires by all the medical schools, and on data compiled over the years by the Council on Medical Education and Hospitals and the Association of American Medical Colleges.

Rather than concentrate its attention primarily on the teaching programs of the medical schools, the survey, as explained by its chairman, Alan Valentine² in his foreword to the report, early became convinced that its most important contribution lay in the direction of analyzing and defining the current position of the medical schools as social and educational instruments. Thus, a considerable proportion of the report deals with an analysis of the activities of a medical school, the finances of the medical schools and the administrative organization, policies, and practices of the schools.

The report presents the most convincing evidence yet compiled demonstrating the complexity and broad scope of the activities and responsibilities of a modern medical school. It analyzes in detail the activities of typical schools in the three major fields of education, research,

and service. This analysis is significant in the light that it sheds on the nature and reasons for the high cost of maintaining a modern medical school. Actually, the report estimates that despite recent substantial increases in the budgets of the medical schools, the schools in terms of purchasing power of the dollar are spending only slightly more on instruction now than they were just before World War II. An analysis of the schools' expenditures indicates that during the decade 1940-1950, primary emphasis was on expansion of research activities. Noting this and other shifts of emphasis, the report urges that the medical schools define precisely the activities that are to be included in medical education, that the schools revise their accounting practices in accord with such a definition, and that the schools maintain a balance in their activities that will preserve their basic function as educational institutions.

These recommendations point up the growing realization among many medical educators that the solution of the financial problem of the medical schools lies as much in reappraising the uses to which available funds are being put as it does in securing additional funds even though there is no question that the total programs of many schools require more adequate support.

It may be commented here that it is doubtful if better cost accounting alone will solve any major problems of inadequate support. Even though it may be shown, as it is in the report of the survey, that university funds assigned to a medical school are used to support the teaching of large numbers of students in other departments, the demonstration of this fact does not increase the total amount of money available to a university for its total educational program. On the other hand, such improved accounting should give the university additional arguments to support its efforts to secure more funds for its medical school and should help to relieve the medical school of possible embarrassment resulting from the fact that its costs are usually high relative to those of other departments of a university.

The report of the survey, however, does suggest certain approaches that should result in more actual money being made available to the medical schools for their essential activities. Thus the report strongly urges that medical schools seek more adequate reimbursement of the indirect costs of research when they accept research grants from government agencies or other sources. The report also urges that the hospital costs of indigent patients be borne by the appropriate private and governmental agencies and not by the medical schools from funds that were given for educational purposes. Again, on the side of conserving the resources and energies of the medical schools, the report warns the schools against the dangers inherent in undertaking extensive medical service programs beyond the needs of the schools' instructional programs.

The report reviews in some detail the various relationships that exist between medical schools and their teaching hospitals and points out that medical schools control appointments to the staff in less than half of their teaching hospitals. The difficulties created for the medical schools by this lack of control in the selection of those who do much important teaching are thoroughly examined. The report makes the further disturbing ob-

1. Deitrick, J. E., and Berson, R. C.: *Medical Schools in the United States at Mid-Century*, New York, McGraw-Hill Book Co., 1953.

2. The other members of the Survey of Medical Education were Drs. Herman G. Weiskotten, Victor Johnson, and Donald G. Anderson, representing the Council on Medical Education and Hospitals, and Drs. Arthur C. Bachmeyer, Joseph C. Hinsey, and Dean F. Smiley representing the Association of American Medical Colleges. Dr. John E. Deitrick served as director and Dr. Robert C. Berson as associate director of the survey.

servation that in certain large city and county hospitals, the unsatisfactory position of the medical schools has not improved essentially since Abraham Flexner's critical comments on these same relationships in 1910. The report urges that until the hospitals referred to fulfill the requirements for a teaching hospital, the medical schools should refuse to conduct teaching programs in them. Unfortunately, many of the schools involved in such unsatisfactory relationships have no other hospitals to which they can readily turn.

The report contains an excellent chapter on the subject of the selection and admission of students to medical school. Emphasizing that the future quality of medical education, research, and service will depend primarily upon the quality of students selected by the medical schools, the report points out that while the schools have expended a great deal of effort in the selection of students, there are a number of ways in which many schools could improve the quality of their work in this area. In general, these schools would benefit by clarifying their policies and criteria for selection, by making more effective use of the information that is available concerning applicants, and by organizing their admissions committees more effectively and giving more adequate financial support to these committees. The report, while decrying discriminatory and restrictive admission practices and policies, makes a strong plea to state authorities and civic groups that they recognize that the intelligent discharge of the admissions function is hampered and not aided by laws and regulations that seek to limit the nature and extent of the personal information that may be made available to a medical school concerning its applicants.

The section of the report dealing with the administrative and departmental organization of the medical schools again calls attention to the complexity of the activities of a modern medical school. It points out the need for fresh thinking in the design of both the over-all administration of the school and the organization of the individual departments of the school.

The chapter of the report dealing with the curriculum is perhaps most noticeable for the critical light it turns on the philosophy and practices of many schools with respect to examinations. The report calls attention to and cites examples of the emphasis many schools place on multiple examinations that tend to dissipate the time and energies of the medical student and to discourage him from developing a mature attitude toward his medical education. This chapter also points to the great dissatisfaction with teaching in outpatient departments that prevails among both students and teachers in the majority of medical schools and analyzes the underlying reasons for this dissatisfaction.

Although many will feel that the portion of the chapter on curriculum dealing with preceptorships and home care programs is overly critical, the weaknesses and abuses of these programs that are reported are real and their recognition and correction are essential if these programs are to have a valid place in medical education.

The final chapter of the report, appropriately entitled "A Summing Up," brings into final sharp focus the more important questions raised in the body of the report: What is medical education? What is a medical

school and what are its responsibilities? Should research be the major goal of a medical school and receive the greatest financial support? What is the goal of the medical school in providing medical care?

The report, while not attempting to answer these and other questions with finality makes pointed observations on all of them. It comments that too often a school today is judged by the public by the magnitude of its activities rather than by the quality of its educational program. It discusses the problems created as medical schools have expanded into medical centers and the trend among medical educators to build large empires with increasing influence and control over many areas of health care.

The chapter concludes with a reminder of the essential truth that it is the medical student who should be at the focus of all the medical school's activities and policies and asks what are the effects of the present programs of the schools on the medical student of today. In a brief and vivid answer, it depicts the present program of medical education as encouraging the development of physicians accustomed to living in a protective, institutional environment, whose capacities for independence and leadership remain undeveloped. To guard against this, the report makes a plea for teachers and administrators who have courage and faith in the idea that the quality of medical education will determine the future of medicine in the United States.

Following the main report are six appendices presenting tables and supporting data. Of particular significance and interest is the appendix summarizing student opinions concerning medical education that were elicited at each school visited by the survey. These expressions of student opinion are for the most part mature, well-considered criticisms that merit the careful consideration of all concerned with medical education.

The report is directed not only to medical educators but equally to the general public in the hope that it will provide the public with a better understanding of the modern medical school and its problems. To meet the needs of this group of readers, the report has brought together a great deal of basic information and statistical data concerning the medical schools and their many activities.

Purposely, no schools are singled out by name for praise or censure in the report. Some who read the report may be surprised at the extent to which it is critical of the medical schools; others may feel that it is not sufficiently critical. Little space has been taken in the report to call attention to or praise those features of the schools which deserve commendation. The survey was not designed to glorify the medical schools, and it has not done so.

Some may be disappointed that the survey does not blueprint a new philosophy or new program of medical education. Although such an approach might have been an interesting and stimulating one, the survey felt that its most useful approach would be to provide a glass into which each school could peer and ask itself which of the faults and failings of American medical education there mirrored are cast by its image. To a large degree the report of the survey has been successful in achieving this end, and the self-examination it is certain to stimulate in each school should lead to a very definite improvement

in medical education in this country in the years immediately ahead.

As previously reported, a separate subcommittee was appointed by the survey to make a special study of pre-professional education as it relates to medicine. The report of this study which was supported by a grant from the John and Mary Markle Foundation, is now in press, and its publication later this fall is being eagerly awaited.³

First World Conference on Medical Education

This report is being written on the eve of the First World Conference on Medical Education to be held in London, Aug. 22-29, 1953, under the auspices of the World Medical Association. The holding of this conference bespeaks the growing recognition that medical education is of basic importance in all efforts to improve medical care and to advance medical knowledge. It also reflects the increasing extent to which thinking in medical education, as in medical science, is transcending national boundaries, with men from all parts of the world seeking to share experiences and knowledge with their colleagues in other countries.

Four fundamental subjects have been selected for discussion by representatives of medical schools from more than 40 countries. These subjects are (1) requirements for entry into medical schools; (2) aims and content of the medical curriculum; (3) techniques and methods of medical education, and (4) preventive and social medicine.

It is expected that the numerous representatives from the United States will not only contribute actively to the program of the Conference but will also benefit from the exchange of information, views, and philosophies concerning medical education as it is conducted in many other parts of the world. Arrangements have been made to have the proceedings of the conference published by the Oxford University Press.

Major Developments in the Medical Schools

Information of general interest concerning any major new developments during 1952-1953 was requested from the schools again this year. These data are reported under the headings of curricular changes, organization and administration, hospital affiliations, construction, and miscellaneous.

Revision, modification, or experimentation with the curriculum were reported by 16 schools. Medical educators will be especially interested in the radically new approach to undergraduate medical education that has been developed at Western Reserve University. Planning for this new program was begun in 1945 and the experiment has been subsidized by a grant totaling \$728,000 given by the Commonwealth Fund. The objective is to provide a basic education that will prepare the student to become a family physician, specialist, teacher, or investigator. The unique features of the program are the methods by which correlated instruction is to be given in the biology of man, the principles of medicine, and care of the patient. Teaching is carried out by interdepartmental teach-

ing committees in three phases, under the direction of a coordinator for each phase. The traditional departmental organization of teaching has therefore been abandoned and this policy is carried through to the laboratory phases of instruction. Instead of the usual departmental laboratories, each student is provided with his own laboratory where, throughout the year, he carries out all of his laboratory work.

Students are regarded as maturing individuals and as graduate students who are to be given increasing responsibility for their own education and free time in each year for the pursuit of elective studies.

The first class was enrolled in this program last fall, and this class will be graduated in 1956. While the first phase has been organized and activated, the second and third phases are not yet completely planned.

Phase 1, the first year, involves study of the normal biology of man, with a multi-disciplined approach to the study of organs and organ function rather than the usual study by separate disciplines. The biochemical activities of the body are stressed. In this phase students are also introduced to the normal infant, adult and family, and to the behavior of man as a member of society.

Phase 2, the second and third years, will emphasize the principles of medicine, prevention of disease, mechanisms of disease, and the natural history of disease. The approach will be from the standpoint of diseases of organs and systems instead of by the older division of teaching by separate special disciplines. A progressively increasing amount of clinical work will be introduced, with major emphasis on diagnosis and on the definition of the principles involved in the mechanisms of illness and of treatment.

Phase 3 will involve application of the material covered in the first two phases to the care of patients in the hospital and at home.

Space prohibits the presentation here of more than a bare outline of the background, the objectives, and the mechanics of this unique program. Those interested in a more detailed report are referred to a panel discussion by members of the medical faculty at Western Reserve, which is reported in the Proceedings of the Annual Congress on Medical Education and Licensure for 1953.

Other schools that reported curriculum changes or plans for such changes were Arkansas, Southern California, Indiana, Kansas, Louisville, Maryland, Harvard, Albany, New York Medical College, Cornell, Pennsylvania, Jefferson, Temple, South Carolina, and Southwestern. The general trends which have characterized postwar curriculum changes continued. Several schools reported programs designed to achieve integration of teaching of basic science subjects without regard for the traditional departmental lines. There were further reductions in the hours devoted to didactic teaching in the clinical years and substitution of increases in clinical clerkship assignments and in the time given to correlated clinical teaching. Several schools announced programs emphasizing comprehensive study of the patient through the development of general medical clinics, reduction in assignments to special clinics, and various types of family and home care plans. The new experimental course in comprehensive medicine at Cornell University is now in effect for all four classes.

3. Severinghaus, A. E.; Carman, H. J., and Cadbury, W. E., Jr.: Preparation for Medical Education in the Liberal Arts College, New York; McGraw-Hill Book Co., to be published.

Administrative or organizational changes were reported by several schools. Louisville established new research laboratories for the department of biochemistry, a research laboratory for the department of surgery, and a department of physical medicine and rehabilitation. At Syracuse, full-time departments of preventive medicine and psychiatry have been organized and partially staffed, and a full-time professor and head for the department of pediatrics has been appointed. Albany has also appointed a full-time head for pediatrics. At Oregon the medical faculty has assumed responsibility for operation of the state crippled children's program. Temple University reported appointment of additional full-time teachers in clinical departments and the establishment of a new research laboratory for the department of physiology. The University of Washington has developed a hospital extension service in connection with the chronic disease unit at King County Hospital and the senior clerkship program. This is an experimental program designed to test the effectiveness, for certain selected, chronically ill patients, of home care as compared with hospital care. This school has also inaugurated surgical and obstetrical clerkships utilizing private patients in several affiliated hospitals.

Important changes in their hospital relationships were reported by several schools. Boston University has a new affiliation with the Boston City Hospital that permits the medical school to appoint a director of pediatric teaching for the hospital and permits the dean, professor of pediatrics, and director of pediatric teaching to nominate all appointments to the pediatric staff. This school has developed an affiliation, under a dean's committee, for graduate training in surgery and medicine, at the Providence Veterans Administration Hospital. The affiliation for obstetrical teaching in the Malden Hospital has been discontinued. The gynecological and obstetrical service at the Boston City Hospital has been reorganized and a new affiliation developed that will allow the deans of the three Boston medical schools to nominate the person to be appointed to the newly created full-time position of director of the gynecological and obstetric service. This makes possible the development of a cooperative teaching program in which all three schools will participate. Indiana this year assumed additional teaching and service obligations at the LaRue D. Carter Psychiatric Hospital, located on the medical center campus, and has also assumed responsibility in connection with the Cold Spring Road Veterans Administration Hospital for Tuberculosis. The University of Louisville has assumed professional responsibility for a geriatric hospital recently established by the city. North Carolina opened its new teaching hospital last year, and Mississippi began construction of a university hospital in December. Albany has consummated a new agreement with the Albany General Hospital under the terms of which the hospital has agreed to underwrite the major share of the clinical budget of the medical college.

Capital expenditures of the medical schools have been reported for the past three years. Beginning with 1951-1952, the schools were asked to report separately the amounts spent for projects completed and amounts spent for projects initiated. In this report, as in last year's, an

effort has been made to exclude figures and projects that were reported in previous years.

Projects costing a total of \$8,206,082 were completed during the past year. New clinical facilities or additional clinical facilities were completed at Kansas, Michigan, and Wisconsin. Additional laboratory space was constructed or old quarters were remodeled at Western Reserve and Tennessee. Student dormitories and an alumni building were constructed at Meharry.

For new projects initiated during the past year, the schools spent a total of \$34,394,005. New medical school buildings or additions to existing buildings were reported by Indiana, Louisiana State, Harvard, Missouri, Minnesota, Brooklyn, New York University, North Carolina, Western Reserve, Oregon, Tennessee, and Southwestern. New clinical facilities or the expansion or renovation of existing facilities were started at Alabama, George Washington, Missouri, Washington University, Nebraska, Rochester, and Oregon. Yale and Cornell began the construction of student residences, and Kansas began a continuation center and student union.

The total of \$42,600,087 spent for projects initiated or completed during 1952-1953 brings the gross total of such expenditures, during the past four years, to more than \$284,000,000. Totals of \$81,640,735 were reported for 1951-1952, \$60,000,000 for 1950-1951, and more than \$100,000,000 for 1949-1950. The sharp decrease in expenditures during the past year follows the completion, by many schools, of extensive programs of rehabilitation and expansion. Although such expenditures in the years immediately ahead can scarcely be expected to match the unprecedented expenditures of the years immediately following the end of World War II, the data for capital programs initiated last year indicate that substantial new construction will continue for several years at least.

However, it is important to keep in mind that a high proportion of the expenditures that have been reported have been for hospitals and dispensaries that, in addition to their essential role in medical education, have another important role to play in providing medical service to the public. A considerable share of these expenditures could therefore legitimately be charged to medical service rather than to medical education. Furthermore, the fact that many schools have been fortunate enough in recent years to acquire splendid new facilities should not obscure the fact that the needs of many schools have been only partially met. There remain a number of schools that are struggling under the handicap of seriously inadequate facilities for basic science teaching and shortages of facilities for research in the basic and the clinical sciences.

Several additional developments were important. Stanford University has received gifts, for the medical school, totaling \$1,218,000 and North Carolina has received a grant of \$160,000 from the Commonwealth Fund for support of a general outpatient clinic for two and a half years. The facilities of the Medical Center of the Medical College of Alabama have been surveyed by the Infantile Paralysis Foundation, Inc., and the foundation will supply funds for the hospitalization of certain patients with poliomyelitis.

Financial Support of Medical Schools

For the seventh successive year the medical schools report a major increase in the funds available to them for their operations. For the academic year 1953-1954, the budgets of the medical and basic science schools in the United States total approximately \$87,409,000. This sum represents an increase of \$6,524,000 in the past year and an increase of \$13,059,000 in the past two years. During the seven year period that these figures have been compiled, the budgets of the medical schools have been increased by more than \$39,524,000.

The total of \$87,409,000 does not include research grants and special teaching grants from outside agencies or any significant portion of the cost of operating the teaching hospitals owned by or affiliated with the medical schools. It does include a total of approximately \$3,475,000 that the medical schools will spend for certain activities in their teaching hospitals. This sum, which is approximately the same as in the previous year, is largely made up of salaries of professional and technical personnel on hospital staffs, the cost of operating special laboratories, and in a few instances contributions to the operating budgets of hospitals and dispensaries used by the medical schools for teaching purposes.

As in previous years, no attempt has been made to compute the direct and frequently very substantial contributions that a number of teaching hospitals make to the educational programs of their affiliated medical schools or to estimate the value of the services contributed by the large number of unpaid members of the teaching staffs of the medical schools. Where a charge for general university administration has been made against a medical school, this charge has been subtracted. Also not included are the cost of operating the medical library and the cost of plant maintenance in two schools and a variety of items, which total slightly more than \$1,400,000, for minor structural alterations, postgraduate education, special institutes, and other activities not included in the regular medical school budgets. The costs of new major construction has also been eliminated from the above total. As already noted in the section on major developments in the medical schools, the schools during the past year were engaged in constructing new facilities of various types costing about \$42,600,087.

The schools estimate that receipts from tuition and other fees during the coming year will total \$18,041,000, or 20.6%, of their budget. Last year tuition fees provided \$17,400,000 or 21.5% of the schools' budgets. The number of schools unable to match student fees dollar for dollar with funds from nonstudent sources in their basic budgets increased from six to seven. In at least two of these schools the situation is not so unfavorable as the figures would suggest, since in each instance hospital funds that do not appear in the medical school budget provide support for comparatively large full time clinical faculties.

The median budget of the four year medical schools for the coming year will be \$1,040,000. Thirty-seven schools as compared to 33 last year and 30 the year before report budgets of over a million dollars for the coming year. Eleven of these schools will have budgets of over 2 million dollars. Last year six schools were in this category. Only six of the four year schools as com-

pared with 11 last year report budgets of less than \$500,000. Of these, two have budgets of less than \$400,000.

In addition to the funds discussed in the foregoing paragraphs, the schools have estimated that during the academic year 1953-1954 they will receive from outside agencies a total of \$38,200,000 in grants for research and \$5,300,000 in grants for special teaching activities. Funds received in these categories last year totaled \$40,100,000 and \$5,534,000. Past experience has shown that the total amount received in grants usually exceeds substantially the amount that the schools estimate in advance, so that the foregoing figures should not be interpreted as indicating that the schools face a reduction in the amount of money they will receive in the form of research and teaching grants during the coming academic year.

In 1952-1953 all schools received funds in both of these categories. Among the four year schools the range in grants for research varied from \$13,000 to \$4,150,000. Twelve schools received more than one million dollars in grants for research and 14 other schools received between \$500,000 and a million dollars. Last year the schools in these categories numbered 12 and 10 respectively.

TABLE 1.—Recapitulation of Estimated Funds Available to Medical Schools, 1953-1954

Funds for Construction and Operation of Major Clinical Facilities Not Included

Budgeted funds and appropriations.....	\$ 87,409,000
Funds for miscellaneous projects.....	1,400,000
Research grants from outside agencies.....	38,200,000
Teaching grants from outside agencies.....	5,300,000
	\$132,309,000

Table 1 recapitulates the funds that the medical schools will expend during the coming academic year in support of their activities exclusive of new construction and the operation of major clinical facilities. As emphasized in previous reports, it is important that it be understood that the total of \$132,309,000 shown in the table will support many activities in addition to the instruction of undergraduate medical students. As is clearly demonstrated in the report of the Survey of Medical Education, a modern medical school conducts a broad program of instruction, research, and service. Tables 12 and 14 indicate the extent to which the medical schools are providing directly for the educational needs of large numbers of other students in addition to undergraduate medical students. Almost one-third of the total sum that will be expended by the medical schools next year is definitely earmarked for research and a smaller portion for the support of clinical services. Additional direct and indirect support of research and clinical services will undoubtedly be provided by the basic budgets of many medical schools, although the actual amount cannot be estimated.

Despite the steady increase in funds that have been made available to the medical schools in the past seven years, medical educators, pointing to the continuing inflation and the continuing demands that are being placed on the medical schools for more research, more service, and the expansion of their student bodies, have indicated that many schools are still operating under serious finan-

cial pressures. Faculty salaries by and large have not kept pace with the rising cost of living, and many schools have expressed real concern over their ability to hold their present faculties and even more concern over their ability to recruit able young teachers.

It is difficult at this time to estimate accurately the total current needs of the medical schools for additional operating funds. An intensive study of this problem has just been initiated by the Council on Medical Education and Hospitals and the Association of American Medical Colleges. The results of this study should be available late this year or early in 1954.

The last comprehensive study of this problem was made by the Surgeon General's Committee on Medical School Grants and Finances, which reported that, on the basis of figures compiled for the year 1947-1948, the schools needed an additional 40 million dollars. Since that time the sum of the funds available to the medical schools annually has increased by approximately \$51,500,000. However, when consideration is given to the increase in costs and the expansion of the schools' activities in the interval, it is clear that this increase is not all net gain. Seven schools continue to operate on total budgets of less than \$500,000. The persistent difficulty several of these schools are encountering in their efforts to secure more adequate support raises a question as to whether the universities or groups sponsoring these particular schools are in a position to continue to assume the responsibilities involved in the conduct of a modern medical school.

The National Fund for Medical Education and the American Medical Education Foundation

The last two Educational Numbers have included brief reports of the activities of the National Fund for Medical Education and the American Medical Education Foundation, two closely associated organizations engaged in raising unrestricted funds annually on a national basis to assist the medical schools in securing more adequate financial support.

In July, 1953, these organizations in their fourth series of grants distributed a total of \$1,944,151.64 to the schools for use during the coming academic year. This latest sum increases to over \$4,750,000 the total assistance provided the medical schools by these two organizations since the first grants were made in July, 1951. Both organizations are intensifying their activities, with the strong hope that through their combined efforts they will shortly be able to provide the medical schools with at least 10 million dollars annually to aid in meeting the operational costs of their educational programs.

Medical Education and National Defense

Since the onset of war in Korea, the Joint Committee on Medical Education in Time of National Emergency, representing the Council on Medical Education and Hospitals and the Association of American Medical Colleges, has collaborated closely with the Department of Defense, the Armed Forces, the Selective Service System, the Public Health Service, the Civil Defense Administration, and other governmental agencies in dealing with problems created for medical education by the defense

needs of the country. This coordination of effort has been of material assistance in the development of programs and policies designed to cope with these problems. As a result, the needs of the armed forces for medical personnel have been met and at the same time the medical schools have been able to fulfill their other obligations to the nation by supplying an increasing flow of well-trained physicians.

The joint committee early recognized the need for long range plans to meet the medical requirements of the military and of civil defense and suggested that the medical curriculum be revised to give proper emphasis to subjects of importance to military medicine and other fields vital to national defense. The joint committee therefore appointed in November, 1950, a subcommittee on curriculum under the chairmanship of Dr. Stanley W. Olson to recommend appropriate changes in the medical curriculum. This committee, in consultation with representatives of the armed forces and the Public Health Service prepared and submitted to the joint committee an outline of the subject material of importance to military medicine and civil defense.⁴ They recommended that this material be covered in already established courses rather than by new courses inserted in already crowded curriculums.

During the past year the Subcommittee on Medical Education for National Defense, in collaboration with representatives of the Department of Defense, the Public Health Service, and the Civil Defense Administration, has developed experimental programs designed to emphasize the aspects of medicine necessary to national defense and to interpret in constructive fashion, for the undergraduate medical student, his responsibilities for military service and his role in civil defense. Five medical schools were selected for the initial experiment: Buffalo, Cornell, Illinois, Vanderbilt, and California. Financing for the programs was provided by a grant of \$75,000 obtained through the armed forces and the Armed Forces Medical Policy Council. Each of the institutions involved in the experiment appointed a coordinator who was instructed to use his own judgment in selecting what seemed to be the best means of implementing the new program in his own school.

In the past, instruction in military medicine was given at the undergraduate level largely through R. O. T. C. and reserve officer courses, which unduly emphasized military organization and administration. The present programs are based on the premise that instruction in military organization is better learned in the military setting; the medical school can make its best contribution to defense by thoroughly indoctrinating the student in fundamental principles of medicine, with appropriate emphasis on the application of those principles to military and civil disaster situations. In this way, education for defense should not interfere with the basic education of undergraduate students and can actually serve to enhance it.

The governmental agencies have made invaluable contributions to the success of these programs not only by financial support and by the participation of their representatives in planning conferences but also by sponsoring

4. Suggestions for Supplementing the Medical Curriculum in Time of National Emergency, Report of the Joint Committee on Medical Education in Time of National Emergency, February, 1951.

special conferences for faculty members and by supplying information, films, and other teaching materials.

The methods used by the five schools varied considerably. At California, Illinois, and Vanderbilt, the major emphasis was on instruction given to the first year class; at Buffalo and Cornell programs were instituted simultaneously for all four classes. At California the material was given as a separate course, Cornell and Vanderbilt incorporated the subject matter into existing courses, while Buffalo and Illinois combined the two approaches. Each school has prepared and submitted to the subcommittee a report of its first year's experience.

Reception of the new programs by both students and faculty has been excellent. Faculty interest has been significantly stimulated as a result of participation of faculty members in a series of special conferences, sponsored by the National Research Council, the Armed Forces Institute of Pathology and the Army Medical Service Graduate School, on problems of special importance in military medicine. The subjects for the six conferences were shock, forensic pathology, stress, biological warfare, leptospiral diseases, and problems of blood transfusion in the severely wounded. These conferences served to emphasize that information drawn from military medicine is valuable to those engaged in dealing with the problems of civilian defense and civilian disaster.

Since the experiments of this first year have been considered by the subcommittee, and by the government representatives concerned, to be signally successful, and because of the continuing demands of national defense programs, the subcommittee has recommended that, as rapidly as possible, opportunity to participate in the program be offered, on a voluntary basis, to other schools. The experience of the past year indicates that each participating school will need a grant of about \$15,000 for the employment of a coordinator and to defray other expenses incurred in the program. At this date, it is not yet known whether such grants will be made available by the Department of Defense to other schools wishing to participate in the program.

SELECTIVE SERVICE SYSTEM

Responsibility for the primary classification of registrants rests with the Selective Service local boards. If a person or his employer (college, medical school, or hospital) has requested his deferment and he has been classified as available for military service, then the person or his employer may, within 10 days of the mailing of the classification notice, file an appeal. Should the state appeal board sustain the classification, the registrant or his employer may, if there is a dissenting vote in the appeal board, file a written request with the local board to have the decision appealed to the National Selective Service Appeal Board. If there is no dissenting vote, the state or national director of selective service may appeal the case to the President.

The College Student Certificate (SSS Form 109) has been prescribed for the use of institutions of higher learning including those of medicine, in furnishing to the local boards information regarding registrants who are enrolled as students in those institutions. These forms should be submitted to the local boards by the educational institu-

tion on request of the registrant. However, the mere filing of such a form does not constitute a request for occupational deferment since, in order to establish the right of appeal as an interested party, a written request from the college or employer for occupational deferment must accompany the form. The registrant has the right of appeal if exercised in the prescribed 10 days. He can make his appeal informally in writing.

Eligibility for Consideration for Deferment.—The law states that the President may provide for the deferment of any person whose deferment is equitable and in the national interest. He is also informed that it is the sense of the Congress that provision should be made for the annual deferment from training and service of premedical, pre-dental, and allied preprofessional students in numbers equal to those at present in attendance at colleges and universities. This is being provided in the general student deferment program. The President is also directed to establish a National Advisory Committee to advise the Selective Service System and aid state and local advisory boards in selecting the needed medical, dental, and allied personnel.

The conditions under which students pursuing programs of higher education may be considered for deferment are specified in sections 1622.15 and 1622.25 of the Selective Service regulations. Within the specified requirements, students of the healing arts are to be considered for deferment in the same manner as students pursuing other undergraduate or graduate courses at colleges, universities, etc.

Any student not previously deferred who is pursuing a full time course of study is entitled to a single period of statutory deferment (Class I-S) until the end of the academic year. Such deferment does not preclude the possibility of his later deferment in Class II-S. Students whose activity in study, research, medical, or other endeavors is found necessary to maintenance of the national health, safety, or interest may be deferred in Class II-S until completion of their training, provided they maintain satisfactory scholastic records. A student who is deferred for study extends his liability for military training and service up to his 35th birthday instead of his 26th, as prescribed for registrants who have never enjoyed a deferment.

In selecting a student for deferment in Class II-S the Selective Service local boards may, at their discretion, be guided either by the score made by the student on the Selective Service College Qualification Test or by his record of academic performance.

The College Qualification Test is given for the Selective Service System by the Educational Testing Service of Princeton, New Jersey. At present, in order to be eligible for deferment on the basis of this test, an undergraduate student must make a score of 70 or more. SSS Form 108 has been prescribed for furnishing to the local board the score made on the test. This score is confidential and may be divulged by the local board only to the registrant or one holding his written consent.

To qualify for deferment on the basis of academic performance, the nonprofessional student must have maintained the following standing among the male members of his class: freshman year, upper one-half;

sophomore year, upper two-thirds; junior year, upper three-fourths.

By Selective Service Regulations a student accepted in medical school on or before July 1, 1951, and who is satisfactorily pursuing full time courses of study may be deferred without consideration of class standing or the Selective Service qualification test if the college certifies him as a full time student satisfactorily pursuing his courses.

A student accepted for admission to medical school after July 1, 1951, for the class next commencing may be deferred provided that during his last full time year at a college or university he was ranked among the upper one-half of the male members of his class or had a score of 70 or more on the Selective Service College Qualification Test. A student admitted to a graduate school before July 1, 1951, who is pursuing a full time course of study may be deferred provided he is meeting degree requirements. A student accepted for admission by a graduate school after July 1, 1951, as a full time student for the class next commencing may be deferred provided in his last full time academic year in a college or university he achieves a scholastic standing among the upper one-half of the male members of his class or scored 75 or more on the qualification test, and provided the graduate school certifies that he is meeting the degree requirements.

Decisions concerning deferment of American students enrolled in foreign universities, including medical students, are the responsibility of the local boards. The local board may accept or reject any claims or evidence presented for deferment.

Interns and Residents.—The Selective Service System has always recommended the deferment of graduates of medicine to complete one year of internship training. No statement of policy has been issued by the national headquarters of the Selective Service System with respect to residents or second year interns.

The National Advisory Committee to the Selective Service System has indicated that all physicians in priorities 1 and 2 will be needed by the armed forces and has advised that they apply for commissions about the time of completion of their internships. A few persons in these categories may be recommended for deferment by the Selective Service Local Boards for teaching, research, or public health service or because they are rendering essential service in isolated communities and cannot be replaced.

In addition, the only persons in this group who can justifiably be recommended for deferment are those who are accepted for training in the scarcity specialties and whose services are required to meet essential needs of medical and dental schools or hospital services. The specialties in which critical shortages exist are anesthesiology, physical medicine and rehabilitation, psychiatry, radiology, neurology, pathology, public health, orthopedic surgery, oral surgery, and the basic medical sciences. Those few persons in these groups for whom deferment is necessary may be deferred in class 2-A by the Selective Service local board. The recommendation of the advisory groups in all such cases is desirable.

Faculty Members.—A majority of the faculty members of medical schools are under age 50 and, therefore,

are required to register with the Selective Service System as required under Public Law 779. No policy has been announced by Selective Service on the granting of deferment to faculty members. However, the National Advisory Committee has recommended that, as a general policy, essential members of medical, dental, and veterinary medical faculties be held in their teaching positions rather than be released for military service. This recommendation applies especially to men in the basic science departments and includes persons in priorities 1 and 2. This policy is not a blanket recommendation for deferment from military service for all teachers. Part time teachers who devote only a small part of their time to teaching, and certain of the younger full time teachers in priorities 1 and 2 will be expected to enter the military services.

THE DOCTOR DRAFT LAW OF 1953

Public Law 84, 83rd Congress, approved by the President June 29, 1953, amended the Universal Military Training and Service Act. It, and the previous amendment, Public Law 779, 81st Congress, are known as "The Doctor Draft Law."

The effective date of the whole Universal Military Training and Service Act, as now amended, is extended to July 1, 1955. No change was made in the age limit prescribed in the previous amendments which required that all physicians, dentists and allied specialists, under the age of 50, must register with their Selective Service local boards, when required to do so by proclamation of the President. These special registrants remain liable for induction up to the age of 51. Therefore, all new medical graduates under the age of 50 must register with their Selective Service local boards as physicians, regardless of any previous registration, within five days of the receipt of the degree of Doctor of Medicine. When the degree is not granted until the completion of an internship, this special registration is accordingly deferred.

As under previous provisions of the act, registrants will be arranged in four priorities signifying the order of induction. However, the criteria for such an arrangement under these priorities have been modified. The major changes enacted by the new amendment are those which provide for greater recognition of prior military service. A registrant will now receive credit for all service performed either as an officer, or as an enlisted man, since Sept. 16, 1940, regardless of whether it was before or after participation in an AST or V-12 program, or deferment by the Selective Service System for professional education prior to March 31, 1947. Also recognition is given for military service performed in the armed forces of a country allied with the United States prior to Sept. 2, 1945, while so allied.

Whereas formerly physicians who were educated in part, or in whole, at government expense, or were deferred by the Selective Service System while completing their professional education, needed 21 months of service to qualify for arrangement in priority 4, they now need only 17 months. As the result of this change, a number of physicians formerly in priorities 1 and 2 will be rearranged in priority 4. The periods of service for men called to active duty or inducted under the new law were

TABLE 2.—Approved Medical Schools in the United States

Name and Location of School	Students by Classes, 1952-1953				1954 Premedical Requirement by Years	Fresh- man	Sopho- more	Junior	Senior	Required Intern Year	Totals** June 30, 1953	Graduates July 1, 1952 to June 30, 1953	Executive Officer
	1954 Requirement by Years	Fresh- man	Sopho- more	Junior										Senior	Required Intern Year	Totals** June 30, 1953	Graduates July 1, 1952 to June 30, 1953
ALABAMA													
1 Medical College of Alabama, Birmingham.....	3	80	78	59	54	..	..	..	..	..	271	54	James J. Durrett, M.D., Dean.....
ARKANSAS													
2 University of Arkansas School of Medicine, Little Rock.....	3	90	88	73	78	..	..	..	..	..	324	78	Hayden C. Nicholson, M.D., Dean.....
CALIFORNIA													
3 College of Medical Evangelists, Loma Linda-Los Angeles.....	3	96	95	98	98	98	98	98	98	98	377	191 †	Walter E. Macpherson, M.D., Pres. Los Angeles; Harold Shryock, M.D., Dean, Loma Linda.....
4 University of Southern California School of Medicine, Los Angeles.....	3	68	65	70	72	67	67	67	67	67	275	67	Gordon E. Goodhart, M.D., Dean.....
5 Stanford University School of Medicine, Stanford-San Francisco.....	3	62	61	58	62	62	62	62	62	62	243	62	Windsor Cooper Cutting, M.D., Acting Dean.....
6 University of California School of Medicine, San Francisco.....	3	77	76	76	72	..	..	..	..	..	301	72	Francis Scott Smyth, M.D., Dean.....
COLORADO													
7 University of Colorado School of Medicine, Denver.....	3	80	77	82	74	..	..	..	..	..	313	73	Francis R. Manlove, M.D., Director of the Medical Center; Robert C. Lewis, Ph.D., Dean, School of Medicine.....
CONNECTICUT													
8 Yale University School of Medicine, New Haven.....	3	79	81	65	65	..	..	..	..	..	290	64	Vernon Lippard, M.D., Dean.....
DISTRICT OF COLUMBIA													
9 Georgetown University School of Medicine, Washington.....	Degree*	124	111	110	96	..	..	..	..	..	441	95	Francis M. Forster, M.D., Dean; Rev. Thomas J. O'Donnell, S.J., Regent and Dean of Students.....
10 George Washington University School of Medicine, Washington.....	3	95	88	77	92	..	..	..	..	..	347	92	Walter A. Bloedorn, M.D., Dean.....
11 Howard University College of Medicine, Washington.....	4	79	72	71	67	..	..	..	..	..	289	67	Joseph L. Johnson, M.D., Dean.....
GEORGIA													
12 Emory University School of Medicine, Atlanta.....	3	72	70	71	73	..	..	..	..	..	286	73	Richard Hugh Wood, M.D., Dean.....
13 Medical College of Georgia, Augusta.....	3	80	79	74	81	..	..	..	..	..	314	81	Edgar R. Pund, M.D., President.....
ILLINOIS													
14 Chicago Medical School.....	4	75	67	69	69	65	65	65	65	65	280	63	John J. Sheinin, M.D., President; F. J. Mullin, Ph.D., Dean.....
15 Northwestern University Medical School, Chicago.....	3	130	126	127	129	..	..	..	..	..	522	130	Richard H. Young, M.D., Dean.....
16 Stritch School of Medicine of Loyola University, Chicago.....	3	88	82	84	80	..	..	..	..	..	334	80	John F. Sheehan, M.D., Dean.....
17 University of Chicago, The School of Medicine.....	3	72	71	72	66	..	..	..	..	..	281	67	Lowell T. Coggeshall, M.D., Dean, Division of Bio- logical Sciences; Joseph J. Cetham, Ph.D., Dean of Students.....
18 University of Illinois College of Medicine, Chicago.....	3	108	106	170	174	..	..	..	..	..	678	174	Roger A. Harvey, M.D., Acting Dean.....
INDIANA													
19 Indiana University School of Medicine, Bloomington-Indianapolis.....	3	151	142	136	139	..	..	..	..	..	568	134	John D. Van Nuys, M.D., Dean, Indianapolis.....
IOWA													
20 State University of Iowa College of Medicine, Iowa City.....	3	121	111	116	105	..	..	..	..	..	453	103	Norman B. Nelson, M.D., Dean.....
KANSAS													
21 University of Kansas School of Medicine, Lawrence-Kansas City.....	3	120	117	110	108	..	..	..	..	..	450	103	W. Clark Wescoe, M.D., Dean.....
KENTUCKY													
22 University of Louisville School of Medicine, Louisville.....	3	101	91	93	100	..	..	..	..	..	385	100	J. Murray Kinsman, M.D., Dean.....
LOUISIANA													
23 Louisiana State University School of Medicine, New Orleans.....	3	124	120	108	105	..	..	..	..	..	457	105	William W. Frye, M.D., Dean.....
24 Tulane University of Louisiana School of Medicine, New Orleans.....	3	133	125	128	128	..	..	..	..	..	514	128	M. E. Lapham, M.D., Dean.....
MARYLAND													
25 Johns Hopkins University School of Medicine, Baltimore.....	Degree	75	66	77	76	..	..	..	..	..	294	76	Philip Bard, Ph.D., Dean.....
26 University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore.....	3	104	101	98	92	..	..	..	..	..	395	92	H. Boyd Wylie, M.D., Dean.....
MASSACHUSETTS													
27 Boston University School of Medicine, Boston.....	3	73	69	65	71	..	..	..	..	..	278	72	James M. Faulkner, M.D., Dean.....
28 Harvard Medical School, Boston.....	3	118	114	149	148	..	..	..	..	..	529	148	George Paeker Berry, M.D., Dean.....
29 Tufts College Medical School, Boston.....	4 (Degree)	115	116	109	98	..	..	..	..	..	438	100	Joseph M. Hayman Jr., M.D., Dean.....
MICHIGAN													
30 University of Michigan Medical School, Ann Arbor.....	3	203	188	153	139	..	..	..	..	..	683	137	A. C. Furstenberg, M.D., Dean.....
31 Wayne University College of Medicine, Detroit.....	3	70	74	65	69	..	..	..	..	..	263	69	Gordon H. Scott, Ph.D., Dean.....
MINNESOTA													
32 University of Minnesota Medical School, Minneapolis.....	3	129	122	134	114	115	115	115	115	115	499	232 †	Harold S. Diehl, M.D., Dean of Medical Sciences.....

MISSOURI													
33	St. Louis University School of Medicine, St. Louis.....	3	128	121	131	119	..	489	116	James W. Colbert Jr., M.D., Dean.			
34	Washington University School of Medicine, St. Louis.....	3	86	84	99	95	..	304	36	Robert A. Moore, M.D., Dean.			
NEBRASKA													
85	Cresighton University School of Medicine, Omaha.....	3	76	73	72	77	..	298	76	F. G. Gillick, M.D., Dean.			
86	University of Nebraska College of Medicine, Omaha.....	3	87	76	95	86	..	344	87	James P. Tollman, M.D., Dean.			
NEW YORK													
87	Albany Medical College, Albany.....	3	52	55	58	50	..	215	47	Harold C. Wiggers, Ph.D., Dean.			
88	University of Buffalo School of Medicine, Buffalo.....	4	72	72	70	60	..	274	59	Stockton Kimball, M.D., Dean.			
89	Columbia University College of Physicians and Surgeons, New York.....	3	120	114	113	116	..	463	33	Willard C. Rappleye, M.D., Dean.			
40	Cornell University Medical College, New York.....	3 and Degree	86	83	85	84	..	338	84	Dayton J. Hedrick, Ph.D., Acting Dean.			
41	New York Medical College, Flower and Fifth Avenue Hospitals, New York.....	Degree	129	130	113	121	..	493	121	J. A. W. Hedrick, M.D., President, Ralph E. Snyder, M.D., Executive Dean.			
42	New York University College of Medicine, New York.....	3	143	134	124	128	..	529	41	Currier McEwen, M.D., Dean.			
43	State University of New York College of Medicine at New York City.....	3	151	140	159	140	..	590	43	Jean A. Curran, M.D., Dean.			
44	University of Rochester School of Medicine and Dentistry.....	3	71	72	67	65	..	275	64	Donald G. Anderson, M.D., Dean.			
45	State University of New York at Syracuse College of Medicine.....	3	77	72	68	61	..	278	61	William R. Willard, M.D., Dean.			
NORTH CAROLINA													
46	Duke University School of Medicine, Durham.....	3	78	79	78	80	..	315	85	Wilburt C. Davison, M.D., Dean.			
47	Bowman Gray School of Medicine of Wake Forest College, Winston-Salem.....	3	53	50	51	52	..	206	52	C. C. Carpenter, M.D., Dean.			
OHIO													
48	University of Cincinnati College of Medicine, Cincinnati.....	3	90	85	90	89	..	354	89	Stanley E. Dorst, M.D., Dean.			
49	Western Reserve University School of Medicine, Cleveland.....	3	78	83	83	78	..	324	78	Joseph T. Wearm, M.D., Dean.			
50	Ohio State University College of Medicine, Columbus.....	3	150	141	141	84	..	516	84	Charles A. Doan, M.D., Dean.			
OKLAHOMA													
51	University of Oklahoma School of Medicine, Oklahoma City.....	3	100	101	82	78	..	361	78	Mark R. Everett, Ph.D., Dean.			
OREGON													
52	University of Oregon Medical School, Portland.....	3	78	74	55	67	..	274	71	D. W. E. Baird, M.D., Dean.			
PENNSYLVANIA													
53	Hahnemann Medical College and Hospital of Philadelphia.....	3	105	98	98	84	..	385	83	Charles L. Brown, M.D., Dean.			
54	Jefferson University School of Medicine, Philadelphia.....	3	170	167	164	161	..	662	160	George Allen Bennett, M.D., Dean.			
55	Temple University School of Medicine, Philadelphia.....	3	133	122	131	122	..	505	122	William N. Farkinson, M.D., Vice President and Dean.			
56	University of Pennsylvania School of Medicine, Philadelphia.....	3	127	127	128	129	..	411	129	John McK. Mitchell, M.D., Dean.			
57	Woman's Medical College of Pennsylvania, Philadelphia.....	4	50	45	42	46	..	183	46	Marleen Fay, Ph.D., Dean.			
58	University of Pittsburgh School of Medicine, Pittsburgh.....	3	100	91	98	100	..	389	99	William S. McElroy, M.D., Dean.			
SOUTH CAROLINA													
59	Medical College of South Carolina, Charleston.....	3	79	69	55	57	..	260	57	Kenneth Lynch, M.D., President; John T. Cuttino, M.D., Dean.			
TENNESSEE													
60	University of Tennessee College of Medicine, Memphis.....	3	216	182	159	156	..	713	155	O. W. Hyman, Ph.D., Vice President and Dean.			
61	Meharry Medical College, Nashville.....	3	65	65	68	61	..	259	60	Harold D. West, Ph.D., President; Daniel T. Rolfe, M.D., Dean.			
62	Vanderbilt University School of Medicine, Nashville.....	3 and Degree	53	47	55	51	..	206	51	John B. Youmans, M.D., Dean.			
TEXAS													
63	Southwestern Medical School of The University of Texas, Dallas.....	3	101	97	103	98	..	399	98	George Asgaard, M.D., Dean.			
64	University of Texas School of Medicine, Galveston.....	3	165	157	136	137	..	595	138	Chauncey D. Leake, Ph.D., Director; D. Bailey Calvin, Ph.D., Dean of Students and Curricular Affairs.			
65	Baylor University College of Medicine, Houston.....	3	95	95	87	88	..	365	88	Stanley Olson, M.D., Dean.			
UTAH													
66	University of Utah School of Medicine, Salt Lake City.....	3	54	52	47	28	..	181	28	John Z. Bowers, M.D., Dean.			
VERMONT													
67	University of Vermont College of Medicine, Burlington.....	3	51	48	48	42	..	184	42	George A. Wolf, M.D., Dean.			
VIRGINIA													
68	University of Virginia Department of Medicine, Charlottesville.....	3	76	67	72	71	..	286	70	Thomas H. Hunter, M.D., Dean.			
69	Medical College of Virginia, Richmond.....	3	84	80	108	99	..	368	100	John B. Truslow, M.D., Dean.			
WASHINGTON													
70	University of Washington School of Medicine, Seattle.....	3	76	69	69	72	..	284	72	James W. Haviland, M.D., Acting Dean.			
WISCONSIN													
71	University of Wisconsin Medical School, Madison.....	3	83	81	82	76	..	322	76	William S. Middleton, M.D., Dean.			
72	Marquette University School of Medicine, Milwaukee.....	3	100	98	99	98	..	390	92	John S. Hirschboeck, M.D., Dean.			
Totals.....									6,608				
Totals.....									7,140	6,795	6,475	407	27,135

* Ninety semester hours for veterans.
 ** Intern enrollment not included in total column.
 † Figures represent two classes. Intern year requirement discontinued.

also revised. Those with 9 months or less of service must serve 24 months. Those with 9 to 12 months will serve 21 months. Those with 12 to 15 months service will serve 18 months, and those with 15 to 21 months service will serve 15 months. Those physicians in priority 4 who have

Public Health Service, including reserve components; time spent during World War II, by conscientious objectors, in work of national importance; service performed before Sept. 2, 1945 in armed forces of countries which were allies of the United States during World War II;

TABLE 3.—Approved Medical Schools in Canada

Name and Location of School	1954 Pre-medical Requirement by Years	Students by Classes—1952-1953								Totals	Graduates, July 1, 1952 to June 30, 1953	Executive Officer
		First Pre-medical Year	Second Pre-medical Year	Freshman	Sophomore	Junior	Senior	Additional Year*	Required Intern Year*			
ALBERTA												
1 University of Alberta Faculty of Medicine, Edmonton.....	3	...	...	60	52	66	53	..	..	231	52	John W. Scott, M.D., Dean... 1
MANITOBA												
2 University of Manitoba Faculty of Medicine, Winnipeg.....	3	...	...	73	61	78	61	..	69	273	72	Lennox G. Bell, M.D., Dean.. 2
NOVA SCOTIA												
3 Dalhousie University Faculty of Medicine, Halifax.....	2	...	...	59	53	50	54	..	56	216	56	H. G. Grant, M.D., Dean..... 3
ONTARIO												
4 Queen's University Faculty of Medicine, Kingston	2†	63	...	61	64	59	57	57	..	361	57	G. Harold Ettinger, M.D., Dean 4
5 University of Ottawa Faculty of Medicine, Ottawa.....	2†	43	...	63	52	47	46	..	48	251	52	A. L. Richard, M.D., Dean.... 5
6 University of Western Ontario Faculty of Medicine, London	3	...	...	60	58	60	60	..	..	238	62	J. B. Collip, M.D., Dean..... 6
7 University of Toronto Faculty of Medicine, Toronto.....	2†	127	120	156	149	161	170	..	..	883	162	J. A. MacFarlane, M.B., Dean 7
QUEBEC												
8 McGill University Faculty of Medicine, Montreal	3	...	...	108	106	111	117	..	..	442	115	C. Lyman Duff, M.D., Dean.. 8
9 University of Montreal Faculty of Medicine, Montreal.....	4	...	...	121	98	98	97	..	93	414	89	Wilbrod Bonin, M.D., Dean... 9
10 Laval University Faculty of Medicine, Quebec	4	119	...	125	87	135	137	..	110	603	108	Charles Vézina, M.D., Dean.... 10
Totals.....		352	120	886	780	865	852	57	376	3,912	825	

* Intern enrollment not included in total column.
 † Grade XIII Honor Matriculation.

TABLE 4.—Approved Schools of the Basic Medical Sciences in the United States and Canada

Name and Location of School	1954 Pre-medical Requirement by Years	Students by Classes, 1952-1953		Total	Executive Officer
		Freshman	Sophomore		
UNITED STATES					
MISSISSIPPI					
1 University of Mississippi School of Medicine, University.....	3	27 } 55	27 } 54	109	David S. Pankratz, M.D., Dean..... 1
MISSOURI					
2 University of Missouri School of Medicine, Columbia.....	3	44	39	83	Roseoe L. Pullen, M.D., Dean..... 2
NEW HAMPSHIRE					
3 Dartmouth Medical School, Hanover.....	3 and Degree	24	24	48	Rolf C. Syvertsen, M.D., Dean..... 3
NORTH CAROLINA					
4 University of North Carolina School of Medicine, Chapel Hill *.....	3	60	58	118	W. Reece Berryhill, M.D., Dean..... 4
NORTH DAKOTA					
5 University of North Dakota School of Medicine, Grand Forks.....	3	40	32	72	Theo. H. Harwood, M.D., Dean..... 5
SOUTH DAKOTA					
6 University of South Dakota School of Medical Sciences, Vermillion.....	3	30	33	63	W. L. Hard, Ph.D., Dean..... 6
WEST VIRGINIA					
7 West Virginia University School of Medicine, Morgantown.....	3	32	28	60	Edward J. Van Liere, M.D., Dean.... 7
Totals		285	268	553	
CANADA					
SASKATCHEWAN					
8 University of Saskatchewan School of Medical Sciences, Saskatoon.....	2	32	29	61	J. Wendell Macleod, M.D., Dean..... 8
Totals		32	29	61	
Grand Totals		317	297	614	

* Expanded to four year medical school. Enrollment for third year class in 1952-1953 was 48.

had 21 months or more of service since Sept. 16, 1940, are no longer liable for induction or recall to duty, except in time of war or national emergency declared by Congress.

“Active service” and “active duty” are defined as: full time duty since Sept. 16, 1940 in the service of the United States Army, Navy, Marine Corps, Coast Guard, or

service performed as a physician or dentist employed by the Panama Canal Health Department between Sept. 16, 1940, and Sept. 2, 1945.

Specifically excluded from consideration as “active service” is time spent in V-12 or AST programs, in military internships, residencies or senior student programs, time spent in military service for the sole purpose of

undergoing physical examination, and training entered into after June 29, 1953.

The law continues to permit the deferment of those persons whose activities are essential to the national health, safety, or interest.

It is the duty of the National Advisory Committee and the voluntary state and local committees of the Selective Service System to make recommendations to the Selective Service System concerning the essentiality or availability of special registrants who are being classified by their local boards. This duty includes recommendations concerning residents, faculty members, and those engaged in essential laboratory and clinical research.

Korean "G. I. Bill"

A detailed analysis of the Korean "G. I. Bill" (Public Law 550, 2nd Session, 82nd Congress) was presented in last year's Educational Number. It may be expected that an increasing number of veterans will utilize the benefits provided by this law to obtain their premedical or medical education. Likewise, many physician veterans on their release from service will undoubtedly take additional graduate education under the provisions of the law. The Veterans Administration has ruled that both internships and residencies will be classified as institutional type training for the purpose of this law. This ruling corrects the unsatisfactory situation existing under the original "G. I. Bill," whereby internships and general practice residencies were treated as on-the-job training and residencies in the specialties were classified as institutional programs.

Approved Medical Schools

The 72 medical schools in the United States that are approved by the Council on Medical Education and Hospitals are listed in table 2; the 10 approved Canadian schools are named in table 3. The 8 approved schools of the basic medical sciences in the United States and Canada are listed in table 4. There has been no change in the lists since the publication of the 1952 Educational Number.

These tables give the number of years of premedical training that each school will require of freshmen entering in 1954. They also list the number of students enrolled in each class for the academic year 1952-1953, the number of students enrolled in internships that are a part of the degree requirement, and the number of students graduated by each school from July 1, 1952, to June 30, 1953. For the Canadian schools enrollments are given for premedical students, students enrolled in a fifth medical year, and those in a required intern year.

The name of the dean or executive officer appears opposite the name of each school. Changes in the chief executive officers have been made by 17 of the 90 medical and basic science schools of the United States and Canada since publication of the 1952 Educational Number. New executive officers have been appointed by Stanford, Georgetown, Georgia, Illinois, Iowa, Johns Hopkins, Tufts, St. Louis, Albany, Cornell, Rochester, Baylor, Virginia, Washington, Missouri, North Dakota, and Southern California.

Medical School Calendars

Conventional schedules were followed during the 1952-1953 academic year by most schools, with students entering in September or October and graduating in May or June. Schedules for the freshman class will be the same in all schools for 1953 as for 1952.

At Kansas, where the freshman year consists of two semesters and a summer session, with vacations and periods of instruction staggered, half the freshmen began their studies in June and half in September. Graduation is in June. The University of Tennessee admitted students each quarter and graduated a class each quarter.

At Duke University, the academic year consists of three quarters each year. There is no summer quarter between the first and second year, but in the two clinical years the subjects of the autumn, winter, and spring terms are repeated in the summer quarter. This accelerated schedule is optional, and students may take their first year and three quarters in each of their subsequent years and receive their certificates in four calendar years; if they receive permission from the curriculum committee, they may at the end of their second year take the clinical quarters given during the summer and receive their certificates in three and one-quarter calendar years. Freshmen are admitted in September only.

Freshmen students are admitted to the University of Chicago annually in September. They may, however, elect to accelerate their programs and graduate in a minimum of approximately three and one-quarter years.

The University of Utah, which had been on an accelerated program, returned to a conventional schedule for the class entering in September, 1951. During the transition the upper classes will complete their medical course on an accelerated schedule. Mississippi continued to admit a class in July and one in January. Canadian medical schools followed regular schedules during the past year and will continue to do so in the coming year.

Scheduled Clock Hours of Instruction

The schools were requested to estimate the approximate total of hours scheduled for each class enrolled during the 1953-1954 academic year. The 73 schools reporting on the first two years had an average of 1,152 hours scheduled for the first year and 1,156 hours for the second year. For the first year, the lowest number of scheduled hours reported was 804 and the highest was 1,521; for the second year the low was 864 hours and the high was 1,548 hours. Sixty-six schools reported an average of 1,318 hours in the third year, with a low of 751 and a high of 2,119. Sixty-five schools that gave figures for the fourth year had an average of 1,421 hours, with a low of 944 and a high of 2,376.

Comments that accompanied many of these estimates of scheduled hours make it clear that the figures from different schools, as furnished, are not comparable and do not always reflect accurately the total hours of instruction that are given. Some schools did not include as regularly scheduled hours time devoted to elective courses and other schools excluded night duty that constitutes a regular part of clinical clerkship assignments. An additional variable is introduced by the difference in the length of the academic year, which may range from two semesters to four quarters in length.

Enrollments

For the fifth consecutive year the total number of students enrolled in approved medical schools in the United States established a new record. Enrollment in the 72 medical and 7 basic science schools during 1952-1953 totalled 27,688 as compared to 27,076 in the previous year. There was an increase in total enrollment of 612, or 2.3%. There was, however, for the first time in five years, a slight decrease in the size of the entering freshman class. This class, numbering 7,425, was smaller by 16, or 0.2% than last year's entering class. This leveling off in the size of the freshman class, following four consecutive entering classes of record size, is expected to be temporary. New facilities now in operation and expansion programs soon to be completed should provide further significant expansion of enrollments.

When students now enrolled in the medical schools of the University of California at Los Angeles, the University of Miami, the University of North Carolina and the University of Puerto Rico are included, the total enrollment is increased by 279. However, these schools

TABLE 5.—Enrollments by Classes in Medical Schools of the United States and Canada, 1952-1953:

Students in the required intern year are not included.

	No. of Schools	Freshmen	Sophomores	Juniors	Seniors	Total	Total Preceding Session
United States							
Medical Schools.....	72	7,140	6,795	6,725	6,475	27,135	26,515
Basic Science Schools....	7	285	268	.....	.....	553	561
Totals.....	79	7,425	7,063	6,725	6,475	27,688	27,076
Canada							
Medical Schools.....	10	896	780	865	852	3,383*	3,394†
Basic Science School....	1	89	29	.....	.....	61	64
Totals.....	11	918	809	865	852	3,444*	3,458†
Totals.....	90	8,343	7,872	7,590	7,327	31,132	30,534

* Does not include 472 premedical and 57 fifth year students.
 † Does not include 395 premedical and 194 fifth year students.

are not in full operation and consequently not yet eligible for Council approval. Their enrollment figures, therefore, may not be added to the present official totals.

Enrollment figures for each approved school are given in tables 2 and 4 and total enrollments for all approved medical schools and basic science schools in the United States and Canada are summarized in table 5.

In addition to students regularly enrolled as full time students of medicine, the schools had enrolled a total of 140 part time and special students working toward the M.D. degree.

Total enrollment in the 10 medical schools and one basic science school in Canada was 3,444, a decrease of 14, or 0.4%, since last year. These schools had 472 additional students enrolled in two premedical years and 57 in an additional (not intern) year. These additional students are included in the "total" column of table 3 and are not included in table 5.

There were 783 students in the United States and Canada who were enrolled in internships that were a part of the degree requirement of the medical schools at which they were educated. The total number of students enrolled in such internships in the United States for each academic year since 1930-1931 is shown in table 6.

Total enrollments, by classes, in the medical and basic science schools of the United States, for each academic year since 1930-1931 are shown in table 7. For years prior to 1942-1943, the totals given in table 7 are somewhat higher than the sum of the figures for the various classes in a given year. This discrepancy was due to the inability of certain schools, in those earlier years, to classify their students strictly into conventional classes.

TABLE 6.—Students in the Required Intern Year in the United States, 1931-1953

1930-1931.....	1,025	1942-1943.....	639
1931-1932.....	1,067	1943-1944.....	451
1932-1933.....	1,106	1944 (Second Session)....	447
1933-1934.....	1,183	1944-1945.....	452
1934-1935.....	1,233	1945-1946.....	488
1935-1936.....	1,213	1946-1947 *.....	582
1936-1937.....	1,255	1947-1948.....	447
1937-1938.....	1,132	1948-1949.....	458
1938-1939.....	1,152	1949-1950.....	454
1939-1940.....	1,152	1950-1951.....	501
1940-1941.....	1,058	1951-1952.....	379
1941-1942.....	767	1952-1953.....	407

* Includes additional classes.

In table 8, the medical schools of the United States are ranked according to the size of their student bodies. Enrollments ranged from 181 to 713 with a median of 447 and an average of 377.

In addition to regularly enrolled medical students, there were 140 part time or special students working toward the M.D. degree in medical schools in the United States and two such students in Canadian schools. The distribution of these students, by schools, is recorded in the first column of table 14.

TABLE 7.—Students in the Medical and Basic Science Schools in the United States, 1931-1953

Students in the required intern year are not included.

	Freshman	Sophomore	Junior	Senior	Total
1930-1931.....	6,456	5,538	5,080	4,908	21,982
1931-1932.....	6,260	5,462	4,992	4,865	22,135
1932-1933.....	6,426	5,479	5,017	4,943	22,465
1933-1934.....	6,457	5,571	4,988	4,937	22,793
1934-1935.....	5,356	5,642	5,142	4,905	22,885
1935-1936.....	6,605	5,458	5,230	5,020	22,564
1936-1937.....	5,910	5,269	5,140	5,158	22,086
1937-1938.....	5,791	5,225	4,986	5,036	21,587
1938-1939.....	5,764	5,160	4,947	4,921	21,302
1939-1940.....	5,794	5,177	4,921	4,894	21,271
1940-1941.....	5,837	5,254	4,969	4,849	21,379
1941-1942.....	6,218	5,406	5,087	4,942	22,031
1942-1943.....	6,425	5,823	5,278	5,100	22,631
1943-1944.....	6,561	6,071	5,640	5,257	23,529
1944 (second session)....	6,648	6,140	6,084	5,794	24,666
1944-1945.....	6,523	5,979	5,700	5,826	24,028
1945-1946.....	6,060	5,750	5,751	5,655	23,216
1946-1947 *.....	6,504	5,575	5,767	5,694	23,900
1947-1948.....	6,487	5,758	5,164	5,340	22,739
1948-1949.....	6,688	6,194	5,702	5,086	23,670
1949-1950.....	7,042	6,344	6,079	5,638	25,103
1950-1951.....	7,177	6,690	6,263	6,056	26,186
1951-1952.....	7,436	6,864	6,577	6,195	27,076
1952-1953.....	7,425	7,063	6,725	6,475	27,688

* Includes additional classes.

Graduates

The 6,668 students graduated during the past year constitute the largest group ever graduated in one academic year from medical schools in the United States. This total exceeds by 279, or 4.4%, the previous record established in 1947, when at the termination of the wartime accelerated program several schools graduated more than one class. Tables 2 and 3 show, respectively, the number of students graduated from each approved medical school in the United States and Canada.

The total number of class A and approved medical schools, together with the total numbers of their students and graduates for each year since 1910 is shown in table 9. Similar figures for class B and C schools for the years 1910-1929 are recorded in table 10. The A, B, C classification of medical schools, inaugurated by the

The schools with the largest numbers of graduates during the past academic year were Illinois 174, Jefferson 160, Tennessee 155, Harvard 148 and the State University of New York College of Medicine at New York City 140. Four schools had less than 50 graduates, including Albany with 47, Woman's Medical College with 46, Vermont with 42, and Utah with 26. The Uni-

TABLE 8.—Medical Schools of the United States in Order of Size of Total Enrollment, 1952-1953

Four Year Medical Schools	
University of Tennessee.....	713
University of Michigan.....	683
University of Illinois.....	678
Jefferson Medical College.....	662
University of Texas.....	595
State University of New York, New York City.....	590
Indiana University.....	568
Harvard Medical School.....	529
New York University.....	529
Northwestern University.....	522
Ohio State University.....	516
Tulane University.....	514
University of Pennsylvania.....	511
Temple University.....	508
University of Minnesota.....	499
St. Louis University.....	499
New York Medical College.....	493
Columbia University.....	463
Louisiana State University.....	457
State University of Iowa.....	453
University of Kansas.....	450
Georgetown University.....	441
Tufts College Medical School.....	438
Southwestern Medical School.....	399
University of Maryland.....	395
Marquette University.....	390
University of Pittsburgh.....	389
University of Louisville.....	385
Hahnemann Medical College.....	385
College of Medical Evangelists.....	377
Medical College of Virginia.....	366
Baylor University.....	365
Washington University.....	364
University of Oklahoma.....	361
University of Cincinnati.....	354
George Washington University.....	347
University of Nebraska.....	344
Cornell University.....	338
Stritch School of Medicine.....	334
Western Reserve University.....	324
University of Arkansas.....	324
University of Wisconsin.....	322
Duke University.....	315
Medical College of Georgia.....	314
University of Colorado.....	313
University of California.....	301
Creighton University.....	298
Johns Hopkins University.....	294
Yale University.....	290
Howard University.....	289
University of Virginia.....	286
Emory University.....	286
University of Washington.....	284
University of Chicago.....	281
Chicago Medical School.....	280
State University of New York, Syracuse.....	278
Boston University.....	278
University of Southern California.....	275
University of Rochester.....	275
University of Oregon.....	274
University of Buffalo.....	274
Medical College of Alabama.....	271
Wayne University.....	268
Medical College of South Carolina.....	260
Meharry Medical College.....	259
Stanford University.....	243
Albany Medical College.....	215
Vanderbilt University.....	206
Bowman Gray School of Medicine.....	206
University of Vermont.....	184
Woman's Medical College.....	183
University of Utah.....	181
Schools of the Basic Medical Sciences	
University of North Carolina.....	118
University of Mississippi.....	109
University of Missouri.....	83
University of North Dakota.....	72
University of South Dakota.....	63
University of West Virginia.....	60
Dartmouth Medical School.....	48

Council in 1910, was discontinued in 1929. Since 1929 schools have been classified as "approved," which is equivalent to the former class A, or as "unapproved." This fact should be borne in mind by those who desire to make comparative studies on the production of physicians at different periods.

TABLE 9.—Schools, Students¹ and Graduates in Approved Medical Schools,² (Class A) in the United States, 1910-1953

Year	Students in the required intern year are not included.		
	Schools	Students	Graduates
1910.....	66	12,530	3,165
1915.....	67	11,314	2,629
1920.....	70	12,559	2,630
1921.....	70	13,488	2,811
1922.....	69	14,625	2,304
1923.....	70	16,454	2,881
1924.....	70	16,775	3,343
1925.....	71	17,462	3,842
1926.....	71	17,887	3,732
1927.....	73	18,754	3,798
1928.....	74	19,794	4,091
1929.....	75	20,843	4,412
1930.....	76	21,597	4,565
1931.....	76	21,962	4,785
1932.....	76	22,135	4,930
1933.....	77	22,466	4,895
1934.....	77	22,799	5,035
1935.....	77	22,888	5,101
1936.....	77	22,564	5,188
1937.....	77	22,095	5,377
1938.....	77	21,587	5,194
1939.....	77	21,302	5,089
1940.....	77	21,271	5,097
1941.....	77	21,379	5,275
1942.....	77	22,081	5,163
1943.....	76	22,631	5,223
1944.....	77	23,529	5,134
1944 (Second Session).....	77	24,666	5,169
1945.....	77	24,028	5,136
1946 (to May 31).....	77	23,216	5,826
1947.....	77	23,900	6,389
1948.....	77	22,739	5,543
1949.....	78	23,670	5,094
1950.....	79	25,103	5,553
1951.....	79	26,186	6,135
1952.....	79	27,072	6,080
1953.....	79	27,688	6,668

1. Includes figures for schools of the basic medical sciences.
2. Medical schools graded as Class A from 1900-1929; as approved since 1929.

TABLE 10.—Schools,¹ Students and Graduates in the United States, 1910-1929. Class B and Class C Medical Schools

Year	Class B			Class C		
	Schools	Students	Graduates	Schools	Students	Graduates
1910.....	43	6,944	854	22	2,052	421
1915.....	22	2,668	688	15	909	219
1920.....	10	731	162	8	798	205
1921.....	9	832	200	7	553	180
1922.....	7	852	143	7	663	182
1923.....	4	522	83	7	456	156
1924.....	4	583	115	6	370	104
1925.....	3	554	118	6	184	14
1926.....	3	582	130	5	371	100
1927.....	3	564	117	4	344	120
1928.....	2	371	96	4	380	75
1929.....	1	35	34	0	0	0

1. Includes figures for schools of the basic medical sciences.

versity of Minnesota and the College of Medical Evangelists this year abolished a required intern year and, therefore, gave diplomas to two classes which numbered 232 and 191 respectively.

Increases in the size of graduating classes were reported by 46 schools for the 1952-1953 academic year, and decreases were reported by 18; 6 had the same number as the previous year.

The Canadian medical schools reported 825 graduates, 42 more than for 1951-1952. The largest numbers were graduated by Toronto with 162 and McGill with 115; the smallest classes were at Alberta and Queens with 52 each.

TABLE 11.—*Graduates with Baccalaureate Degrees in Medical Schools in the United States and Canada, July 1, 1952 to June 30, 1953*

	Graduates	Degrees	Per Cent with Degrees
United States			
Medical College of Alabama.....	54	50	92.6
University of Arkansas.....	78	42	53.8
College of Medical Evangelists.....	191	164	85.9
University of Southern California.....	67	39	58.2
Stanford University.....	62	62	100.0
University of California.....	72	72	100.0
University of Colorado.....	73	60	82.2
Yale University.....	64	59	92.2
Georgetown University.....	95	92	96.8
George Washington University.....	92	74	80.4
Howard University.....	67	67	100.0
Emory University.....	73	66	90.4
Medical College of Georgia.....	81	69	85.2
Chicago Medical School.....	63	47	74.6
Northwestern University.....	130	130	100.0
Stritch School of Medicine.....	80	30	37.5
University of Chicago.....	67	45	67.2
University of Illinois.....	174	171	98.3
Indiana University.....	134	130	97.0
State University of Iowa.....	103	81	78.6
University of Kansas.....	103	103	100.0
University of Louisville.....	100	90	90.0
Louisiana State University.....	105	85	81.0
Tulane University.....	128	113	88.3
Johns Hopkins University.....	76	76	100.0
University of Maryland.....	92	76	82.6
Boston University.....	72	62	86.1
Harvard Medical School.....	148	131	88.5
Tufts College Medical School.....	100	97	97.0
University of Michigan.....	137	109	79.6
Wayne University.....	59	46	78.0
University of Minnesota.....	232	232	100.0
St. Louis University.....	116	72	62.1
Washington University.....	95	83	87.4
Creighton University.....	76	76	100.0
University of Nebraska.....	87	76	87.4
Albany Medical College.....	47	45	95.7
University of Buffalo.....	59	43	72.9
Columbia University.....	116	115	99.1
Cornell University.....	84	78	92.9
New York Medical College.....	121	110	90.9
New York University.....	127	122	96.1
State University of New York, New York City.....	140	130	92.9
University of Rochester.....	64	60	93.7
State University of New York, Syracuse.....	61	53	86.9
Duke University.....	85	56	65.9
Bowman Gray School of Medicine.....	52	41	78.9
University of Cincinnati.....	89	78	87.6
Western Reserve University.....	78	72	92.3
Ohio State University.....	84	84	100.0
University of Oklahoma.....	78	64	82.1
University of Oregon.....	71	71	100.0
Hahnemann Medical College.....	83	82	98.8
Jefferson Medical College.....	160	147	91.9
Temple University.....	122	101	82.8
University of Pennsylvania.....	129	121	93.8
Woman's Medical College.....	46	44	95.7
University of Pittsburgh.....	99	90	90.9
Medical College of South Carolina.....	57	49	86.0
University of Tennessee.....	155	77	49.7
Meharry Medical College.....	60	48	80.0
Vanderbilt University.....	51	51	100.0
Southwestern Medical School.....	98	65	66.3
University of Texas.....	138	110	79.7
Baylor University.....	88	47	53.4
University of Utah.....	28	26	92.9
University of Vermont.....	42	38	90.5
University of Virginia.....	70	57	81.4
Medical College of Virginia.....	100	87	87.0
University of Washington.....	72	50	69.4
University of Wisconsin.....	76	76	100.0
Marquette University.....	92	60	65.2
Totals.....	6,668	5,725	85.8
Canada			
University of Alberta.....	52	51	98.1
University of Manitoba.....	72	23	31.9
Dalhousie University.....	56	18	32.1
Queen's University.....	57	6	10.5
University of Western Ontario.....	62	35	56.5
University of Toronto.....	162	37	22.8
McGill University.....	115	96	83.5
University of Montreal.....	89	89	100.0
Laval University.....	108	108	100.0
University of Ottawa.....	52	31	59.6
Totals.....	825	494	59.9

The estimated number of graduates for 1953-1954, based on enrollments reported for senior classes in schools in the United States, is 6,831; for the Canadian schools it is 867.

There was an increase in both the number and the percentage of medical graduates in the United States and Canada who had baccalaureate degrees. Table 11 shows that 5,725, or 85.8%, of all medical graduates in the United States and 494, or 59.5%, of Canadian graduates held baccalaureate degrees.

Responsibility of Medical Schools for Other Students

In recent years, increasing recognition has been given to the heavy burden of instruction that medical faculties must assume over and above their regular programs for undergraduate medical students. Medical faculties provide part or all of the instruction given to large numbers of students, other than medical students, at both the undergraduate and graduate levels. That an attempt should be made, in any study of the cost of medical education, to segregate the cost of these additional programs has been emphasized in previous issues of this report.

The extent of these extra duties is indicated by the figures reported in tables 12 and 13. In previous years, these figures were summarized in a single table. However, this year, in order to identify the groups of extra students more clearly, graduate students and physicians working toward advanced degrees have been listed in a separate table.

Table 12 shows by general categories the numbers of students for whom medical schools were responsible other than undergraduate medical students and graduate students who are candidates for advanced degrees. In the groups presented in this table were a total of 50,445 students. Medical faculties provided full courses of instruction for students in technical schools, interns, residents, and fellows in the medical specialties and in some instances dental students also. The total numbers of such students was 14,811.

Table 13 summarizes the gross total figures, collected since 1947-1948, concerning students other than medical students who have received instruction from medical schools. Since statistics for the years 1947-1948 through 1949-1950 are incomplete in some categories, the total figures for those years should not be compared with those for subsequent years. It should also be noted that the figures for graduate students have now been entirely deleted from table 12. The gross total of 50,445, from table 12, when combined with the total figures for graduate students recorded in table 14 gives a grand total of 54,149 other students who received instruction from medical faculties. This is less by 1,288 than the total reported the previous year.

There were significant increases in the number of technical students (646), nursing students (460), interns (322), and residents (335). On the other hand, there were major decreases in the numbers of physicians enrolled in refresher courses (1,428), nonmedical students taking medical courses (1,059), dental students (455), and pharmacy students (375).

The numbers of physicians and graduate students working toward advanced degrees in medical school departments are recorded in four groups in tables 14 and 15. There were 1,419 physicians working toward advanced degrees in medical school departments and 2,285 additional graduate students enrolled in programs leading to advanced degrees in the basic medical sciences. During

TABLE 12.—Other Students for Whom Medical Schools were Responsible, 1952-1953

School	Part Time or Special Students Working Toward M.D. Degree	Dental Students Receiving Instruction from Medical School Faculty	Pharmacy Students Receiving Instruction from Medical School Faculty	Nursing Students Receiving Instruction from Medical School Faculty	Students in Technical Schools Receiving Instruction from Medical School Faculty	Nonmedical Students Taking Medical Courses	Physicians Enrolled in Refresher or Continuation Courses	Physicians Enrolled in Formal Basic Science Courses in Preparation for Specialty Board Certification	Physicians Holding Appointments as Fellows	Interns for Whose Instruction and Supervision the Medical School Was Primarily Responsible	Residents for Whose Instruction and Supervision the Medical School Was Primarily Responsible	Totals
UNITED STATES												
Medical College of Alabama.....	7	92	0	85	36	0	14	11	0	21	56	322
University of Arkansas.....	2	0	40	0	19	0	154	0	0	11	31	257
College of Medical Evangelists.....	0	0	0	176	52	1	116	8	1	98	38	490
Stanford University.....	0	0	0	102	57	136	141	0	33	53	72	594
University of California.....	0	198	75	291	39	0	617	0	0	50	105	1,375
University of Southern California.....	0	0	0	0	0	0	220	110	3	135	135	603
University of Colorado.....	1	0	0	193	33	0	1,312	5	3	48	147	1,742
Yale University.....	0	0	0	242	0	17	70	3	23	44	65	469
George Washington University.....	0	0	0	0	12	563	178	0	36	22	39	850
Georgetown University.....	0	188	6	116	2	0	24	0	8	11	48	397
Howard University.....	0	156	75	35	0	54	0	0	1	0	0	321
Emory University.....	0	150	0	367	25	0	127	0	19	53	126	867
Medical College of Georgia.....	9	0	0	32	1	4	44	0	0	14	41	145
Chicago Medical School.....	0	0	0	0	0	0	0	0	0	0	0	0
Northwestern University.....	3	0	0	175	30	0	12	0	0	135	143	498
Stritch School of Medicine.....	11	0	0	0	0	0	0	0	0	0	0	11
University of Chicago.....	0	0	0	0	0	0	0	0	0	30	100	130
University of Illinois.....	0	229	266	66	0	22	17	0	0	25	91	716
Indiana University.....	1	142	0	228	48	12	392	19	5	19	100	966
State University of Iowa.....	0	101	47	220	43	442	5	57	4	16	121	1,056
University of Kansas.....	12	0	41	165	0	583	1,600	2	3	19	75	2,500
University of Louisville.....	0	176	0	82	11	11	450	0	3	20	55	808
Louisiana State University.....	3	0	0	128	0	0	35	20	1	0	78	265
Tulane University.....	1	0	0	65	0	127	70	13	39	33	82	430
Johns Hopkins University.....	0	0	0	228	0	9	17	0	57	0	0	311
University of Maryland.....	0	0	46	71	6	0	49	59	12	28	63	334
Boston University.....	0	0	0	62	40	37	8	0	7	0	5	159
Harvard Medical School.....	0	23	0	0	0	0	382	55	361	0	0	826
Tufts College Medical School.....	0	269	0	0	0	0	78	0	65	0	0	412
University of Michigan.....	1	99	26	89	69	0	493	24	8	14	46	869
Wayne University.....	1	70	0	0	65	0	185	0	0	66	60	447
University of Minnesota.....	1	330	186	161	1,292	0	1,413	0	0	30	115	3,528
University of Mississippi.....	4	0	44	8	0	1	0	0	0	0	0	57
St. Louis University.....	5	147	0	202	137	0	6	0	0	5	26	523
University of Missouri.....	4	0	0	21	15	372	0	0	0	0	0	412
Washington University.....	0	0	0	0	77	47	6	11	68	51	124	384
Creighton University.....	3	92	24	85	0	3	0	0	0	23	15	250
University of Nebraska.....	0	0	0	120	18	0	121	0	0	12	39	310
Dartmouth Medical School.....	1	0	0	130	20	0	0	0	1	16	48	216
Albany Medical College.....	0	0	0	257	0	0	49	0	19	32	51	408
University of Buffalo.....	0	124	65	40	0	0	143	0	2	0	0	374
Columbia University.....	0	30	0	322	0	100	485	44	14	0	0	1,045
Cornell University.....	0	0	0	79	0	0	30	18	41	0	0	168
New York Medical College.....	0	0	0	173	0	0	84	5	3	2	26	293
New York University.....	0	0	0	479	0	106	0	0	60	59	143	847
State University of New York, New York City.....	1	0	0	0	0	0	25	40	0	35	85	186
University of Rochester.....	1	0	0	253	0	0	0	0	10	53	77	394
State University of New York, Syracuse.....	1	0	0	0	0	0	390	0	0	9	62	461
Duke University.....	2	0	0	129	48	10	10	19	46	97	371	730
University of North Carolina.....	2	82	91	42	0	129	331	0	3	26	24	730
Bowman Gray School of Medicine.....	1	0	0	117	18	0	0	0	0	9	51	196
University of North Dakota.....	1	0	0	105	2	70	0	0	0	0	0	178
Ohio State University.....	0	120	0	143	127	1,147	0	0	0	14	121	1,672
University of Cincinnati.....	0	0	0	257	3	3	337	0	22	52	114	655
Western Reserve University.....	7	172	0	124	17	0	235	55	34	0	0	777
University of Oklahoma.....	0	0	0	160	26	0	348	58	3	24	40	659
University of Oregon.....	19	0	0	397	34	4	451	0	0	17	74	996
Hahnemann Medical College.....	0	0	0	130	20	0	0	0	7	13	43	213
Jefferson Medical College.....	0	0	0	0	0	0	0	26	4	33	62	125
Temple University.....	1	0	0	251	20	0	36	5	0	19	102	434
University of Pennsylvania.....	0	140	0	37	0	44	0	0	138	26	171	556
University of Pittsburgh.....	3	0	0	890	0	0	88	33	0	9	90	1,023
Woman's Medical College of Pennsylvania.....	0	0	0	57	0	0	0	0	6	3	9	75
Medical College of South Carolina.....	0	0	64	155	12	0	501	0	9	11	28	780
University of South Dakota.....	3	0	0	0	0	135	0	1	0	1	1	140
Meharry Medical College.....	1	130	0	26	21	0	0	0	0	0	0	15
University of Tennessee.....	0	203	121	142	23	0	60	0	0	0	0	549
Vanderbilt University.....	0	0	0	0	0	0	0	0	0	25	53	78
Baylor University.....	1	0	0	0	12	0	99	0	3	62	94	271
Southwestern Medical School.....	6	0	0	0	0	3	177	0	1	34	154	375
University of Texas.....	1	75	0	254	30	3	325	0	5	22	77	813
University of Utah.....	4	0	25	35	9	546	148	0	17	20	100	883
University of Vermont.....	2	0	0	40	24	1	0	0	1	20	25	113
Medical College of Virginia.....	0	205	235	381	44	52	625	0	4	36	84	1,666
University of Virginia.....	0	0	0	205	7	0	318	0	16	28	71	645
University of Washington.....	2	151	53	302	29	2,904	429	9	25	32	51	3,987
West Virginia University.....	1	0	45	0	23	6	0	0	0	0	0	75
Marquette University.....	5	220	0	0	0	0	200	0	0	0	0	425
University of Wisconsin.....	6	0	98	252	262	922	121	5	8	24	62	1,760
Totals.....	140	4,169	1,667	10,089	2,958	8,631	14,401	706	1,240	1,898	4,546	50,445
CANADA												
University of Alberta.....	0	0	0	0	0	0	165	0	0	0	0	165
University of Manitoba.....	0	0	0	0	0	0	55	0	0	69	9	133
Dalhousie University.....	0	24	38	22	0	29	296	0	0	56	0	465
Queen's University.....	0	0	0	166	0	112	85	4	7	84	0	458
University of Ottawa.....	0	0	0	12	0	2	13	0	0	48	9	84
University of Toronto.....	0	172	169	15	0	547	89	53	72	0	0	1,115
University of Western Ontario.....	2	0	0	53	0	0	0	0	14	20	0	89
Laval University.....	0	0	0	0	89	0	12	8	0	0	0	109
McGill University.....	0	70	0	0	0	0	0	0	0	0	0	70
University of Montreal.....	0	36	275	0	0	88	0	43	0	93	0	535
University of Saskatchewan.....	0	0	62	17	0	200	0	0	0	0	0	279
Totals.....	2	302	544	283	89	978	715	108	93	370	18	3,502

TABLE 13.—Other Students for Whom Medical Schools in the United States Were Responsible, 1947-1953

	Part Time or Special Students Working Toward M. D. Degrees	Dental Students Receiving Instruction from Medical School Faculty	Pharmacy Students Receiving Instruction from Medical School Faculty	Nursing Students Receiving Instruction from Medical School Faculty	Students in Technical Schools Receiving Instruction from Medical School Faculty	Nonmedical Students Taking Medical Courses	Physicians Enrolled in Refresher or Continuation Courses	Physicians Enrolled in Formal Basic Science Courses in Preparation for Specialty Board Certification	Physicians Holding Appointments as Fellows	Interns for Whose Instruction and Supervision the Medical School Was Primarily Responsible	Residents for Whose Instruction and Supervision the Medical School Was Primarily Responsible	Totals
1947-1948.....	105	*	*	*	*	478	13,187	2,338	*	*	*	16,108
1948-1949.....	93	*	*	*	*	2,089	15,695	1,697	*	*	*	19,524
1949-1950.....	110	*	*	*	*	2,720	17,930	1,087	1,135	1,960	4,345	29,287
1950-1951.....	106	3,854	2,497	9,195	1,402	9,838	17,654	1,152	1,238	1,786	4,259	52,981
1951-1952.....	125	4,626	2,042	9,629	1,312	9,690	15,829	978	1,204	1,576	4,211	51,222
1952-1953.....	140	4,169	1,667	10,089	2,958	8,631	14,401	706	1,240	1,898	4,546	50,445
Totals.....	679	12,649	6,206	28,913	5,672	33,396	94,696	7,958	4,817	7,220	17,361	219,567

* Figures not available.

TABLE 14.—Physicians and Graduate Students Working for Advanced Degrees in Medical School Departments, 1952-1953

UNITED STATES					UNITED STATES				
School	Physicians Working Toward Advanced Degrees	Other Graduate Students Working for Degrees in Basic Medical Sciences	Total Students Receiving Master's Degree for Work in Medical School Departments	Total Students Receiving Ph.D. Degree for Work in Medical School Departments	School	Physicians Working Toward Advanced Degrees	Other Graduate Students Working for Degrees in Basic Medical Sciences	Total Students Receiving Master's Degree for Work in Medical School Departments	Total Students Receiving Ph.D. Degree for Work in Medical School Departments
Medical College of Alabama.....	3	24	1	0	Duke University.....	0	0	0	0
University of Arkansas.....	0	10	3	0	University of North Carolina.....	0	30	1	2
College of Medical Evangelists.....	4	0	4	0	Bowman Gray School of Medicine....	0	6	2	0
Stanford University.....	1	7	3	4	University of North Dakota.....	0	14	5	0
University of California.....	0	26	5	21	Ohio State University.....	0	63	0	0
University of Southern California...	3	24	2	2	University of Cincinnati.....	10	9	0	2
University of Colorado.....	214	49	28	10	Western Reserve University.....	0	6	0	4
Yale University.....	0	103	39	12	University of Oklahoma.....	0	27	2	0
George Washington University.....	0	102	20	10	University of Oregon.....	0	13	7	1
Georgetown University.....	1	17	2	4	Hahnemann Medical College.....	0	5	0	0
Howard University.....	0	1	1	0	Jefferson Medical College.....	0	33	5	2
Emory University.....	0	8	0	0	Temple University.....	102	4	25	0
Medical College of Georgia.....	0	0	0	0	University of Pennsylvania.....	0	91	7	9
Chicago Medical School.....	3	124	0	0	University of Pittsburgh.....	0	0	2	2
Northwestern University.....	44	0	26	16	Woman's Medical College of Pennsylvania.....	0	0	0	0
Stritch School of Medicine.....	3	58	8	1	Medical College of South Carolina...	0	21	3	1
University of Chicago.....	3	124	33	32	University of South Dakota.....	1	7	5	0
University of Illinois.....	14	93	34	11	Meharry Medical College.....	0	4	1	0
Indiana University.....	0	9	1	3	University of Tennessee.....	13	31	8	1
State University of Iowa.....	7	75	10	18	Vanderbilt University.....	0	14	0	0
University of Kansas.....	10	28	5	3	Baylor University.....	1	5	2	0
University of Louisville.....	1	2	0	0	Southwestern Medical School.....	0	1	1	0
Louisiana State University.....	0	2	0	0	University of Texas.....	0	27	4	1
Tulane University.....	35	43	2	2	University of Utah.....	2	52	6	3
Johns Hopkins University.....	0	4	0	1	University of Vermont.....	0	10	2	0
University of Maryland.....	0	26	1	5	Medical College of Virginia.....	0	14	6	0
Boston University.....	0	50	10	5	University of Virginia.....	1	0	0	0
Harvard Medical School.....	0	49	0	0	University of Washington.....	5	62	8	3
Tufts College Medical School.....	0	21	6	2	West Virginia University.....	0	3	1	0
University of Michigan.....	38	56	0	0	Marquette University.....	0	21	13	0
Wayne University.....	65	33	2	1	University of Wisconsin.....	0	77	9	8
University of Minnesota.....	788	146	77	11	Totals.....	1,419	2,285	502	258
University of Mississippi.....	0	14	6	3	CANADA				
St. Louis University.....	22	41	8	12	School				
University of Missouri.....	0	13	2	1	University of Alberta.....	0	2	2	0
Washington University.....	0	13	0	4	University of Manitoba.....	5	0	2	0
Creighton University.....	15	4	9	0	Dalhousie University.....	10	6	3	0
University of Nebraska.....	0	4	3	1	Queen's University.....	4	6	9	1
Dartmouth Medical School.....	0	0	0	0	University of Ottawa.....	9	5	2	1
Albany Medical College.....	0	6	1	0	University of Toronto.....	52	52	6	8
Columbia University.....	2	0	0	0	University of Western Ontario.....	4	34	10	4
Cornell University.....	0	17	0	2	Laval University.....	1	3	1	3
State University of New York, New York City.....	8	0	0	0	McGill University.....	162	0	11	7
New York Medical College.....	0	0	9	0	University of Montreal.....	9	10	1	3
New York University.....	0	41	2	4	University of Saskatchewan.....	0	11	1	1
State University of New York, Syracuse.....	0	17	1	1	Totals.....	256	129	48	28
University of Buffalo.....	0	30	0	0					
University of Rochester.....	0	121	13	17					

the past academic year, the Master of Science degree was awarded to 502 persons for completion of graduate work in Medical school departments and the Doctor of Philosophy degree to 258. While the number of graduate students in the basic medical sciences is only 25 less than last year, there was a decrease of 486 in the number of physicians working toward advanced degrees. As a consequence there has been a decrease of 511, or 12.1%, in the number of physicians and graduate students taking advanced work in medical school departments. In the basic medical sciences alone in the past two years the number of graduate students has shrunk by 15.7%. These figures are of the utmost importance, since a continuing decline in the ranks of potential teachers trained in the basic medical sciences will accentuate the already existing shortage of teaching and research personnel trained in these vitally important fields.

Canadian medical schools reported a gross total of 3,887 students other than medical students who received instruction from their medical schools last year. This represents a decrease of 601. The number of graduate students working toward advanced degrees in the basic

TABLE 15.—Physicians and Graduate Students Working for Advanced Degrees in Medical School Departments, 1947-1953

	Physicians Enrolled for Advanced Degrees	Other Graduate Students Working for Degrees in Basic Medical Sciences	Totals
1947-1948.....	813	1,090	1,903
1948-1949.....	1,133	1,765	2,898
1949-1950.....	1,125	2,094	3,219
1950-1951.....	1,561	2,720	4,281
1951-1952.....	1,905	2,310	4,215
1952-1953.....	1,419	2,255	3,704
Totals.....	7,956	12,264	20,220

medical sciences decreased from 160 to 129 while the number of physicians working toward advanced degrees increased from 106 to 256. The total number of students other than graduate students and undergraduate medical students for whom these schools were responsible was 3,502. A marked drop in the number of nursing students (980) more than offset increases in the numbers of non-medical students taking medical courses (61), technical students (53), physicians enrolled in refresher courses (51), and pharmacy students (41).

Distribution of Students by Sex

Classification by sex of all students enrolled in medical and basic science schools in the United States and Canada for the academic year 1952-1953 is given in table 16. This table also records similar data for the graduates of each school.

The total number of women students and graduates and the proportion of women to all persons in these categories is given for each year since 1905 in table 18. Figures for the years 1905 through 1929 include statistics for class B and C schools; those for 1930 and subsequent years represent only approved schools.

TABLE 16.—Distribution of Students and Graduates by Sex in the United States and Canada, 1952-1953

	Students		Graduates	
	Men	Women	Men	Women
United States				
Medical College of Alabama.....	260	11	54	0
University of Arkansas.....	807	17	77	1
College of Medical Evangelists.....	358	19	181	10
Stanford University.....	223	20	59	3
University of California.....	286	15	70	2
University of Southern California.....	260	15	63	4
University of Colorado.....	287	26	68	5
Yale University.....	273	17	59	5
George Washington University.....	336	11	87	5
Georgetown University.....	421	20	90	5
Howard University.....	261	28	63	4
Emory University.....	251	5	71	2
Medical College of Georgia.....	298	16	76	5
Chicago Medical School.....	274	6	61	2
Northwestern University.....	496	26	124	6
Stritch School of Medicine.....	327	7	79	1
University of Chicago.....	259	22	61	6
University of Illinois.....	645	33	167	7
Indiana University.....	547	21	127	7
State University of Iowa.....	443	10	99	4
University of Kansas.....	437	13	100	3
University of Louisville.....	365	20	93	7
Louisiana State University.....	430	27	102	3
Tulane University.....	497	17	123	5
Johns Hopkins University.....	269	25	71	5
University of Maryland.....	381	14	91	1
Boston University.....	259	19	67	5
Harvard Medical School.....	494	35	141	7
Tufts College Medical School.....	422	16	96	4
University of Michigan.....	648	35	127	10
Wayne University.....	259	9	57	2
University of Minnesota.....	470	29	219	13
University of Mississippi.....	107	2	...	...
St. Louis University.....	492	7	114	2
University of Missouri.....	79	4	...	...
Washington University.....	347	17	88	7
Creighton University.....	293	5	75	1
University of Nebraska.....	327	17	80	7
Dartmouth Medical School.....	48	0	...	...
Albany Medical College.....	204	11	42	5
University of Buffalo.....	259	15	57	2
Columbia University.....	415	48	103	13
Cornell University.....	322	16	79	5
New York Medical College.....	461	32	110	11
New York University.....	498	31	117	10
State University of New York, New York City.....	558	32	136	4
University of Rochester.....	257	18	59	5
State University of New York, Syracuse.....	267	11	59	2
Duke University.....	302	13	82	3
University of North Carolina.....	117	1	...	...
Bowman Gray School of Medicine.....	199	7	50	2
University of North Dakota.....	71	1	...	...
Ohio State University.....	499	17	80	4
University of Cincinnati.....	351	3	89	0
Western Reserve University.....	296	28	72	6
University of Oklahoma.....	352	9	76	2
University of Oregon.....	263	11	69	2
Hahnemann Medical College.....	366	19	78	5
Jefferson Medical College.....	662	0	160	0
Temple University.....	474	34	111	11
University of Pennsylvania.....	488	23	125	4
University of Pittsburgh.....	375	14	94	5
Woman's Medical College of Pennsylvania.....	0	183	...	16
Medical College of South Carolina.....	254	6	57	0
University of South Dakota.....	62	1	...	...
Meharry Medical College.....	251	8	59	1
University of Tennessee.....	684	29	147	8
Vanderbilt University.....	199	7	50	1
Baylor University.....	343	22	82	6
Southwestern Medical School.....	374	25	95	3
University of Texas.....	568	27	133	5
University of Utah.....	176	5	26	2
University of Vermont.....	175	9	40	2
Medical College of Virginia.....	335	31	92	8
University of Virginia.....	283	3	67	3
University of Washington.....	270	14	69	3
West Virginia University.....	59	1	...	...
Marquette University.....	374	16	87	5
University of Wisconsin.....	296	26	13	3
Totals.....	26,225	1,463	6,305	383
Canada				
University of Alberta.....	213	18	47	5
University of Manitoba.....	257	16	68	4
Dalhousie University.....	204	12	54	2
Queen's University.....	221*	20*	51	6
University of Ottawa.....	200†	8†	51	1
University of Toronto.....	584‡	52‡	154	8
University of Western Ontario.....	224	14	58	4
Laval University.....	471§	13§	106	2
McGill University.....	416	26	106	9
University of Montreal.....	378	36	84	5
University of Saskatchewan.....	52	9	...	...
Totals.....	3,220	224	779	46
Grand Totals.....	29,445	1,687	6,989	409
Number of Premedical Students Excluded:				
	Men	Women		
*	61	2		
†	221	26		
‡	114	5		
§	41	2		
Number of Fifth Year Students Excluded:				
	Men	Women		
	51	6		

TABLE 17.—Residence of Freshman Medical Students

Marginal Number	School	1	2	3	4	5	6	7	8	9	10	11	12	13
		Alabama	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Dist. of Columbia	Florida	Georgia	Idaho	Illinois	Indiana
1	Medical College of Alabama.....	80												
2	University of Arkansas School of Medicine.....		90											
3	College of Medical Evangelists.....		1	35	2	2			2		1	1	1	
4	University of Southern California School of Medicine.....		1	60										
5	Stanford University School of Medicine.....		1	55										
6	University of California School of Medicine.....		1	72										
7	University of Colorado School of Medicine.....		1		65									
8	Yale University School of Medicine.....		1	7	12	1						3		
9	Georgetown University School of Medicine.....			3	8	6	1					1		
10	George Washington University School of Medicine.....	1	2	1	11			14	7	1	8	1	1	
11	Howard University College of Medicine.....	3			2		1			6	1	2	1	
12	Emory University School of Medicine.....	2						1	20	37		1		
13	Medical College of Georgia.....				1				80					
14	Chicago Medical School.....				9	1			2			10		
15	Northwestern University Medical School.....	2	3		3	2			2		2	43	9	
16	Stritch School of Medicine of Loyola University.....				5				1		1	47		
17	University of Chicago, The School of Medicine.....				11	1	1					17	1	
18	University of Illinois College of Medicine.....											168		
19	Indiana University School of Medicine.....					1						2		145
20	State University of Iowa College of Medicine.....		1		1				1					
21	University of Kansas School of Medicine.....		1		2				1					2
22	University of Louisville School of Medicine.....													
23	Louisiana State University School of Medicine.....				2	1			17	6	1			1
24	Tulane University of Louisiana School of Medicine.....	9	2	2	2	1	2	2	1			3	1	
25	Johns Hopkins University School of Medicine.....	3			1			2	2			1	1	
26	University of Maryland School of Medicine.....				2		3	1	2			2	1	
27	Boston University School of Medicine.....				7		3	3	1			9	1	
28	Harvard Medical School.....	1					16		3					
29	Tufts College Medical School.....								1	1		2	6	
30	University of Michigan Medical School.....													
31	Wayne University College of Medicine.....													
32	University of Minnesota Medical School.....													
33	University of Mississippi School of Medicine.....													
34	University of Missouri School of Medicine.....								1		1	10	2	
35	St. Louis University School of Medicine.....	1			12	3	4					3	10	1
36	Washington University School of Medicine.....		1	2	8				1	5				
37	Creighton University School of Medicine.....				11	2	1					3		
38	University of Nebraska College of Medicine.....													
39	Dartmouth Medical School.....				1									
40	Albany Medical College.....						4	1						
41	University of Buffalo School of Medicine.....													
42	Columbia University College of Physicians and Surgeons.....				4				1					2
43	Cornell University Medical College.....				2	1	2		1					
44	New York Medical College, Flower and Fifth Avenue Hospitals.....	1	2		2	1	1	1	3			3		
45	New York University College of Medicine.....	1			2		10		1			1		
46	State University of New York College of Medicine at New York City.....						2							
47	University of Rochester School of Medicine and Dentistry.....				2		1		2	1				
48	State University of New York at Syracuse College of Medicine.....											1		
49	University of North Carolina School of Medicine.....													
50	Duke University School of Medicine.....	2	1		1			1	1	10	2			
51	Bowman Gray School of Medicine of Wake Forest College.....								8	4		1		
52	University of North Dakota School of Medicine.....													2
53	University of Cincinnati College of Medicine.....				1	1						3	2	
54	Western Reserve University School of Medicine.....													
55	Ohio State University College of Medicine.....											4		
56	University of Oklahoma School of Medicine.....													
57	University of Oregon Medical School.....													
58	Hahnemann Medical College and Hospital of Philadelphia.....						1	2				2	1	
59	Jefferson Medical College of Philadelphia.....	1					2	2	1		1	2	1	
60	Temple University School of Medicine.....				2		1	2		3		3		
61	University of Pennsylvania School of Medicine.....				2		4	1		2				1
62	Woman's Medical College of Pennsylvania.....				5		1			2		2		
63	University of Pittsburgh School of Medicine.....													
64	Medical College of South Carolina.....													
65	University of South Dakota School of Medicine.....				2									
66	University of Tennessee College of Medicine.....	10	1	6			1		10	3				
67	Meharry Medical College.....	7		1					4	4		1	1	
68	Vanderbilt University School of Medicine.....	6	1	1					1	6	2			
69	Southwestern Medical School of The University of Texas.....													
70	University of Texas School of Medicine.....													
71	Baylor University College of Medicine.....	1	1	1										
72	University of Utah School of Medicine.....		2									1		
73	University of Vermont College of Medicine.....						3							
74	University of Virginia Department of Medicine.....									2	1			
75	Medical College of Virginia.....							1	1	1				1
76	University of Washington School of Medicine.....											3		
77	West Virginia University School of Medicine.....													
78	University of Wisconsin Medical School.....													
79	Marquette University School of Medicine.....		2		1								5	1
Totals.....		130	26	107	343	79	92	14	42	119	142	25	356	184
80	University of Alberta Faculty of Medicine.....													
81	University of Manitoba Faculty of Medicine.....													
82	Dalhousie University Faculty of Medicine.....													
83	Queen's University Faculty of Medicine.....													
84	University of Ottawa Faculty of Medicine.....				1									
85	University of Western Ontario Faculty of Medicine.....													
86	University of Toronto Faculty of Medicine.....													
87	McGill University Faculty of Medicine.....													
88	University of Montreal Faculty of Medicine.....				7		1			1		1	2	
89	Laval University Faculty of Medicine.....													
90	University of Saskatchewan School of Medical Sciences.....													
Totals.....		0	0	0	8	0	1	0	0	1	0	0	1	2
Grand totals.....		130	26	107	351	79	93	14	42	120	142	25	357	186
		1	2	3	4	5	6	7	8	9	10	11	12	13

* Figures include two freshman classes.

† Figures are for students in beginning premedical year.

There were 1,463 women in medical and basic science schools in the United States during 1952-1953, 8 less than last year. However, there were proportionately about the same number of women in medical school and entering medical school this year as in the previous year. They comprised 5.3% of all students as compared with 5.4% last year. Women in freshman classes totaled 399, or 5.3%, of the total as compared with 394, or 5.3%, last year. Women this year constituted 6.1% of all applicants to medical school as compared with 5.6% last year. The

TABLE 18.—Women in Medicine in the United States

Year	Women Students	Percentage of All Students	Women Graduates	Percentage of All Graduates
1910.....	907	4.0	116	2.6
1915.....	592	4.0	92	2.6
1920.....	818	5.8	122	4.0
1925.....	910	5.0	204	5.1
1926.....	935	5.0	212	5.4
1927.....	964	4.9	189	4.7
1928.....	929	4.5	207	4.9
1929.....	925	4.4	214	4.8
1930.....	855	4.4	204	4.5
1931.....	990	4.5	217	4.6
1932.....	955	4.3	208	4.2
1933.....	1,056	4.7	214	4.4
1934.....	1,020	4.5	211	4.2
1935.....	1,077	4.7	207	4.1
1936.....	1,133	5.0	246	4.7
1937.....	1,113	5.1	238	4.4
1938.....	1,161	5.4	237	4.6
1939.....	1,144	5.4	260	5.1
1940.....	1,145	5.4	253	5.0
1941.....	1,146	5.4	280	5.3
1942.....	1,164	5.3	279	5.4
1943.....	1,150	5.1	241	4.6
1944.....	1,176	5.0	239	4.7
1944 (2d session).....	1,141	4.6	252	4.9
1945.....	1,352	5.6	262	5.1
1946.....	1,868	8.0	242	4.2
1947*.....	2,183	9.1	342	5.4
1948.....	2,159	9.5	392	7.1
1949.....	2,109	8.9	612	12.1
1950.....	1,806	7.2	595	10.7
1951.....	1,564	5.9	468	7.6
1952.....	1,471	5.4	351	5.7
1953.....	1,463	5.3	363	5.5

* Includes additional classes.

actual number of women graduates increased slightly. There were 363 women graduates, or 5.5% of the total, as compared with 351, or 5.7%, the previous year. Dartmouth and Jefferson had no women students and Woman's Medical College no men. The number of schools with more than 30 women was eight, one less than the previous year. Canadian schools had 224 women enrolled, or 6.5% of all students, and had 46 women graduates, constituting 5.5% of the total.

TABLE 19.—Enrollment by Classes of Veterans and Non-Veterans in the Medical and Basic Science Schools in the United States, 1952-1953

	Men Veterans	Other Men	Total Men	Women Veterans	Other Women	Total Women	Total Men and Women
Freshmen.....	1,115	5,911	7,026	4	895	899	7,425
Sophomores...	1,473	5,236	6,709	7	847	854	7,663
Juniors.....	2,314	4,662	6,376	12	337	349	6,725
Seniors.....	3,004	3,110	6,114	13	848	861	6,475
Totals.....	7,906	18,319	26,225	36	1,427	1,463	27,688

Negro Medical Students

There were 715 Negro medical students, 2.6% of all students, enrolled in medical schools in the United States during 1952-1953. These students were enrolled in 49 schools, with 265 at Howard University, 259 at Meharry, and 191 at other schools. There were 203 freshmen, 180 sophomores, 168 juniors, and 164 seniors.

Veterans in Medical Schools

The number of veterans enrolled in medical and basic science schools declined again for the second year. There were 7,942 veterans enrolled, comprising 28.7% of the total student body, as compared with 11,436, or 42.2%, last year. There were 36 women veterans.

Enrollment figures for veteran and nonveteran students are recapitulated in table 19. The number of veterans

TABLE 20.—Number of Individuals from Each State Applying to One or More Medical Schools

State	Accepted			Not Accepted			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Arizona.....	25	0	25	28	0	28	53	0	53
Arkansas.....	107	7	114	83	3	86	190	10	200
California.....	367	81	398	625	61	686	992	92	1084
Colorado.....	78	4	82	70	5	75	148	9	157
Connecticut.....	91	3	94	193	7	200	289	10	299
Delaware.....	14	1	15	21	2	23	35	3	38
Dist. of Columbia.....	45	2	47	96	10	106	141	12	153
Florida.....	125	6	131	186	6	192	311	12	323
Georgia.....	152	8	160	85	4	89	237	12	249
Idaho.....	30	0	30	24	0	24	54	0	54
Illinois.....	347	19	366	409	25	434	766	44	800
Indiana.....	182	6	188	132	6	138	314	12	326
Iowa.....	134	7	141	46	3	49	180	10	190
Kansas.....	117	2	119	99	6	105	216	8	224
Kentucky.....	117	6	123	84	6	90	201	12	213
Louisiana.....	154	9	163	64	4	68	218	13	231
Maine.....	19	2	21	26	2	28	45	4	49
Maryland.....	106	8	114	95	7	102	201	15	216
Massachusetts.....	208	11	219	278	19	297	486	30	516
Michigan.....	296	24	320	228	14	242	524	33	562
Minnesota.....	162	6	168	94	7	101	256	13	269
Mississippi.....	110	5	115	94	1	95	204	6	210
Missouri.....	126	3	129	113	3	116	239	6	245
Montana.....	22	0	22	27	3	30	49	3	52
Nebraska.....	113	7	120	98	6	104	211	13	224
Nevada.....	2	0	2	4	0	4	6	0	6
New Hampshire.....	18	1	19	15	0	15	33	1	34
New Jersey.....	261	13	274	446	23	474	710	41	751
New Mexico.....	13	2	15	9	1	10	22	3	25
New York.....	933	67	1000	1593	119	1715	2529	186	2715
North Carolina.....	144	9	153	134	7	141	278	16	294
North Dakota.....	46	0	46	17	1	18	63	1	64
Ohio.....	395	17	412	375	28	403	770	45	815
Oklahoma.....	117	1	118	88	7	95	205	8	213
Oregon.....	66	5	71	68	4	72	134	9	143
Pennsylvania.....	548	51	599	868	54	922	1416	105	1521
Rhode Island.....	38	1	39	58	3	61	96	4	100
South Carolina.....	100	4	104	46	6	52	146	10	156
South Dakota.....	40	3	43	17	0	17	57	3	60
Tennessee.....	179	11	190	75	4	79	254	15	269
Texas.....	364	26	390	207	16	223	571	42	613
Utah.....	63	0	63	60	2	62	113	2	115
Vermont.....	18	2	20	13	0	13	31	2	33
Virginia.....	149	5	154	104	12	116	253	17	270
Washington.....	108	5	113	129	10	139	237	15	252
West Virginia.....	66	3	69	93	8	101	159	11	170
Wisconsin.....	153	17	170	108	7	115	261	24	285
Wyoming.....	15	0	15	14	0	14	29	0	29
Canada.....	6	3	9	58	4	62	64	7	71
U. S. Possessions..	38	1	39	119	17	136	157	18	175
Foreign.....	62	10	72	167	17	184	229	27	256
Not Stated.....	15	0	15	70	5	75	85	5	90
Total Number of Individuals.....	7335	443	7778	8407	578	8985	15742	1021	16763

Stalnaker, John M. "The Study of Applicants for Admission to United States Medical Colleges, Class Entering in 1952-1953." Reprinted, with permission, from J. Med. Educ. 28:21-28, Feb. 1953.

enrolled continues to decline and the present freshman class has the smallest complement of veterans for any year since the end of World War II. Veterans comprised 15.2% of the freshman class or 7.3% less than last year. The percentages of veterans in other classes were: sophomores 21%, juniors, 34.6%, and seniors, 46.6%.

Geographic Source of Freshman Students

The residence of students at the time of their enrollment in the 1952-1953 freshman class in each medical and basic science school in the United States and Canada is

given in table 17. Since persons frequently change residence and may move to states other than those in which they were born, the home states listed in this table are not necessarily the states either of birth or of permanent residence.

The residences of 886 freshmen in Canadian schools are given at the bottom of table 17. This total differs from the total given in other tables, since it includes figures for the first classes of premedical students who are already registered at Queen's University, Laval, and Toronto.

TABLE 21.—Residence of Freshman Students in Medical and Basic Science Schools in the United States and Canada, 1952-1953

United States						United States							
	Home State	Other State	Territories and Possessions	Canadian	Foreign	Totals		Home State	Other State	Territories and Possessions	Canadian	Foreign	Totals
Medical College of Alabama.....	80	0	0	0	0	80	University of North Carolina School of Med.	59	1	0	0	0	60
University of Arkansas.....	90	0	0	0	0	90	Duke University School of Medicine.....	36	42	0	0	0	78
College of Medical Evangelists.....	35	48	3	3	7	96	Bowman Gray School of Medicine of Wake Forest College.....	23	30	0	0	0	53
University of Southern California School of Medicine.....	60	8	0	0	0	68	University of North Dakota School of Med.	37	3	0	0	0	40
Stanford University School of Medicine.....	55	7	0	0	0	62	University of Cincinnati College of Medicine	78	11	1	0	0	90
University of California School of Medicine.	72	4	0	0	1	77	Western Reserve University School of Med.	54	23	0	0	1	78
University of Colorado School of Medicine.....	65	15	0	0	0	80	Ohio State University College of Medicine...	150	0	0	0	0	150
Yale University School of Medicine.....	12	65	2	0	0	79	University of Oklahoma School of Medicine.	100	0	0	0	0	100
Georgetown University School of Medicine..	6	117	0	0	1	124	University of Oregon Medical School.....	63	13	1	1	0	78
George Washington University School of Medicine.....	14	77	1	1	2	95	Hahnemann Medical College and Hospital of Philadelphia.....	77	27	1	0	0	105
Howard University College of Medicine.....	6	61	0	0	9	79	Jefferson Medical College of Philadelphia...	107	57	3	0	3	170
Emory University School of Medicine.....	37	34	0	0	1	72	Temple University School of Medicine.....	95	34	2	0	2	133
Medical College of Georgia.....	80	0	0	0	0	80	University of Pennsylvania School of Med.	74	52	0	0	1	127
Chicago Medical School.....	10	65	0	0	0	75	Woman's Medical College of Pennsylvania..	21	27	0	0	2	50
Northwestern University Medical School....	43	81	1	1	1	130	University of Pittsburgh School of Medicine	99	1	0	0	0	100
Stritch School of Medicine of Loyola Univ.	47	40	1	0	0	88	Medical College of South Carolina.....	79	0	0	0	0	79
University of Chicago, The School of Med..	17	48	1	1	5	72	University of South Dakota School of Med.	24	6	0	0	0	30
University of Illinois College of Medicine....	168	0	0	0	0	168	University of Tennessee College of Medicine.	149	66	0	0	1	216
Indiana University School of Medicine.....	145	5	0	0	1	151	Meharry Medical College.....	7	55	0	0	3	65
State University of Iowa College of Medicine	113	7	1	0	0	121	Vanderbilt University School of Medicine...	11	42	0	0	0	53
University of Kansas School of Medicine....	107	10	0	0	3	120	Southwestern Medical School of The University of Texas.....	101	0	0	0	0	101
University of Louisville School of Medicine.	86	14	0	0	1	101	University of Texas School of Medicine....	165	0	0	0	0	165
Louisiana State Univ. School of Medicine...	124	0	0	0	0	124	Baylor University College of Medicine.....	80	14	0	0	1	95
Tulane Univ. of Louisiana School of Medicine	18	110	3	0	2	133	University of Utah School of Medicine.....	45	8	0	0	1	54
Johns Hopkins University School of Medicine	5	61	0	2	7	75	University of Vermont College of Medicine..	15	35	0	0	1	51
University of Maryland School of Medicine.	76	26	2	0	0	104	University of Virginia Department of Med.	63	13	0	0	0	76
Boston University School of Medicine.....	32	35	0	0	6	73	Medical College of Virginia.....	67	16	0	0	1	84
Harvard Medical School.....	21	91	1	0	5	118	University of Washington School of Medicine	66	8	1	1	0	76
Truitt College Medical School.....	73	42	0	0	0	115	West Virginia University School of Medicine	32	0	0	0	0	32
University of Michigan Medical School.....	176	23	2	0	2	203	University of Wisconsin Medical School....	81	2	0	0	0	83
Wayne University College of Medicine.....	70	0	0	0	0	70	Marquette University School of Medicine...	55	38	0	0	7	100
University of Minnesota Medical School.....	119	9	0	0	1	129							
University of Mississippi School of Medicine	271	55	0	0	0	326	Totals.....	5,089	2,195	40	10	91	7,425
University of Missouri School of Medicine..	44	0	0	0	0	44							
St. Louis University School of Medicine....	23	101	2	0	2	128	Canada						
Washington University School of Medicine...	28	55	2	0	1	86	University of Alberta Faculty of Medicine..	0	0	0	60	0	60
Cresighton University School of Medicine...	23	49	4	0	0	76	University of Manitoba Faculty of Medicine	1	0	0	71	1	73
University of Nebraska College of Medicine.	84	2	0	0	1	87	Dalhousie University Faculty of Medicine...	0	1	0	57	1	59
Dartmouth Medical School.....	1	22	1	0	0	24	Queen's University Faculty of Medicine....	0	5	0	57	2	64
Albany Medical College.....	37	14	0	0	1	52	University of Ottawa Faculty of Medicine...	0	14	0	44	5	63
University of Buffalo School of Medicine...	56	16	0	0	0	72	University of Western Ontario Faculty of Medicine.....	0	1	0	59	0	60
Columbia University College of Physicians and Surgeons.....	73	44	0	0	3	120	University of Toronto Faculty of Medicine.	0	0	0	127	0	127
Cornell University Medical College.....	38	46	1	0	1	86	McGill University Faculty of Medicine.....	0	47	0	47	14	108
New York Medical College, Flower and Fifth Avenue Hospitals.....	77	52	0	0	0	129	University of Montreal Faculty of Medicine	0	4	0	115	2	121
New York University College of Medicine...	118	24	0	0	1	143	Laval University Faculty of Medicine.....	0	2	0	116	1	119
State University of New York College of Medicine, New York City.....	142	8	1	0	0	151	University of Saskatchewan School of Medical Sciences.....	0	0	0	31	1	32
University of Rochester School of Medicine and Dentistry.....	43	25	2	0	1	71							
State University of New York at Syracuse College of Medicine.....	72	4	0	0	1	77	Totals.....	1	74	0	784	27	886
							Grand Totals.....	5,090	2,270	41	794	116	8,311

There were 14 schools that excluded all out-of-state students, one less than last year. There were five schools that admitted less than five out-of-state students.

Of the total of 3,677 freshmen admitted last year to state and municipally owned schools in the United States, 335, or 9.1%, were nonresidents as compared with 283, or 7.7%, the previous year. The percentage of nonresident students enrolled in these schools remains substantially below the 17.1% enrolled in 1941-1942, the last prewar year. In the privately owned schools last year 2,001 students, or 53.4%, were residents of states other than that in which the school was located. This is approxi-

mately the same proportion of out-of-state students admitted by these schools the previous year.

"The Study of Applicants" ⁵ prepared by the Association of American Medical Colleges provides additional interesting data on the geographic origins of medical students in the 1952-1953 freshman class. Table 20, which is reproduced from Mr. Stalnaker's study, presents an analysis of the total numbers of male and female applicants from each state, territory, and so on, together with the numbers accepted and rejected. About half of all

applicants came from seven states. Ranked in order of the numbers of their applicants, these states were New York, Pennsylvania, California, Ohio, Illinois, New Jersey, and Texas. The first three of these states, New York, Pennsylvania, and California, each had approximately the same proportion of applicants admitted to medical schools (37 to 39%).

The total number of resident students, students from other states, students from territories and possessions of

5. Stalnaker, J. M.: Study of Applicants for Admission to United States Medical Colleges, Class Entering in 1952-1953, J. M. Educ. 28: 21-28 (Feb.) 1953.

the United States, Canadian students, and students from foreign countries enrolled in each school in the United States and Canada are recapitulated in table 21. The number of first year students per 100,000 of population for each state is given in table 22. For the entire nation, there were 4.7 freshman medical students per 100,000 of inhabitants, approximately the same number as last year. The 11 states that have no medical or basic science

TABLE 22.—Ratio of Freshman Students to State Populations, 1952-1953

Numbers of Students per 100,000 Population ¹ in the Medical and Basic Science Schools of the United States			
*New Mexico.....	2.1	Wisconsin.....	4.5
*Nevada.....	2.2	Oregon.....	4.7
*Maine.....	2.5	South Carolina.....	4.7
*Arizona.....	3.0	Texas.....	4.7
California.....	3.0	Ohio.....	4.8
Missouri.....	3.1	Vermont.....	4.8
New Hampshire.....	3.2	District of Columbia.....	5.0
North Carolina.....	3.5	Iowa.....	5.0
West Virginia.....	3.5	*New Jersey.....	5.2
*Florida.....	3.8	Oklahoma.....	5.2
Georgia.....	4.0	*Wyoming.....	5.2
Illinois.....	4.0	Minnesota.....	5.3
Kentucky.....	4.0	South Dakota.....	5.3
*Delaware.....	4.1	Mississippi.....	5.4
*Idaho.....	4.1	Pennsylvania.....	5.4
Maryland.....	4.1	Colorado.....	5.5
Massachusetts.....	4.1	Louisiana.....	5.5
*Montana.....	4.1	Tennessee.....	5.6
Washington.....	4.1	Arkansas.....	5.7
Alabama.....	4.3	Kansas.....	5.8
Virginia.....	4.3	New York.....	6.4
Connecticut.....	4.4	North Dakota.....	7.7
*Rhode Island.....	4.4	Utah.....	8.1
Indiana.....	4.5	Nebraska.....	8.4
Michigan.....	4.5		
		United States.....	4.7

* State with no medical school.
 1. Population Estimates, Current Population Reports. July 1, 1952, Series P-25, No. 70, March 24, 1953, Washington, D. C.

schools had an average of 3.7 first year students, the same number as last year. States that have medical schools had 4.9 students per 100,000 of population as compared with 5.2 last year and 4.9 the year before last.

Forty students from United States territories and possessions were admitted last year, 14 less than in 1951-1952. Ten Canadians, three more than last year, were admitted to medical schools in the United States. Of the

TABLE 23.—Medical Schools Requiring an Internship

United States
College of Medical Evangelists
University of Southern California School of Medicine
Stanford University School of Medicine
Chicago Medical School
Duke University School of Medicine ¹
Canada
University of Manitoba Faculty of Medicine
Dalhousie University Faculty of Medicine
University of Ottawa Faculty of Medicine
Laval University Faculty of Medicine
University of Montreal Faculty of Medicine

1. Degree not withheld until internship completed.

886 students entering Canadian schools, 75 or 23 more than last year were from the United States; 27 students entering those schools were from foreign countries.

Required Internships

The four schools in the United States and the five schools in Canada that require their students to complete an internship are listed in table 23. The discontinuance of this requirement by the College of Medical Evangelists and University of Minnesota during the current year represents the only change in the list since 1952. Although only these few schools require an internship,

more than 99% of all medical graduates have for many years voluntarily served internships. In addition, a high proportion of medical graduates take additional hospital training after the internship.

Duke University gives the M.D. degree at the end of the four year medical course, but requires its students to sign a written agreement that they will spend two years training in a hospital or laboratory before entering practice. Several other schools permit substitution of a year of laboratory work for the internship. The number of United States students enrolled in intern years required by their schools is shown in table 6.

One year of internship is required as a prerequisite to licensure by the licensing boards of 26 states, the District of Columbia, Puerto Rico, and 5 territories and possessions. The internship requirement was instituted during the past year by South Carolina. Eleven boards require a rotating internship.

A list of boards with specific requirements for internships appears in table 24. Licenses of candidates from schools that require an internship are withheld by 10 states until completion of the internship (California, Con-

TABLE 24.—Medical Licensing Boards Requiring a One Year Internship*

Alabama	Nevada	Vermont
Arizona ¹	New Hampshire	Washington ²
California	New Jersey ^{2,4}	West Virginia
Colorado	North Dakota ²	Wisconsin
Delaware ²	Oklahoma ²	Wyoming
District of Columbia	Oregon	Alaska ^{1,5}
Idaho	Pennsylvania ²	Canal Zone
Illinois ²	Rhode Island ²	Guam
Iowa ²	South Carolina	Hawaii
Kentucky	South Dakota	Puerto Rico ²
Michigan ^{2,3}	Utah	Virgin Islands

* Some states require the internship for graduates of medical faculties abroad and from reciprocity or endorsement applicants.

1. Straight internship required.
2. Internship must be a rotating service.
3. Twenty-four month mixed or straight internship acceptable.
4. Two year residency in a specialty or one year of postgraduate work accepted.
5. Active practice for four years accepted in lieu of internship.

necticut, Iowa, Michigan, Oklahoma, Tennessee, Utah, Vermont, Washington, and Wisconsin). Certain states in addition to those listed in table 24 require internships of foreign medical graduates and of candidates seeking licensure on the basis of reciprocity or endorsement.

Hospitals approved for intern training by the Council on Medical Education and Hospitals of the American Medical Association are generally acceptable in those states that require an internship for licensure. The current list of approved internships will be published in the Sept. 26, 1953, issue of THE JOURNAL.

Preprofessional Requirements

The minimum educational requirement of the Council on Medical Education and Hospitals for students entering medical school after January, 1953, is three years of college training. Prior to this year the Council since 1918 had required two years of college and since 1938 had recommended three years. Although the present minimum requirement is three years, it is recommended that, in order to acquire a broad general education, premedical students take the full four year college course. In rare instances a medical school will be justified in admitting an exceptionally qualified student at the end of two years of college.

All state licensing boards require that an applicant for licensure present evidence of having completed at least two years of premedical study in college. Six states and Puerto Rico require three years. In tables 2, 3, and 4, the number of years of premedical work required by each medical school are shown.

College Record of the 1952-1953 Freshman Class

For the past three years, data have been reported on the scholastic records of students entering medical school. Since the colleges and universities use a number of different grading scales, it has been difficult to obtain data that are comparable. In previous years, the medical schools were asked to report the numbers of "A," "B," and "C" students admitted. Since a majority of institutions now prefer one of the numerical systems of grading, the medical schools were asked this year to report their figures on a four point scale in which 4.0 represents the highest grade attainable. For purposes of comparison, it should be noted that a grade of 3.6 to 4.0 on this scale is approximately equivalent to an "A" on the previous one, 2.6 to 3.5 grade a "B," and 1.6 to 2.5 equals a "C." The schools were requested to report the premedical scholastic records of the 1952 freshman class in three categories: those with grade point averages of 3.6 to 4.0, those with averages of 2.6 to 3.5, and those with averages of 1.6 to 2.5.

Seventy of the 79 medical and basic science schools in the United States were able to provide the data requested. Of the 6,491 freshman for whom figures are available, 18.0% had averages of 3.6 to 4.0, 67.5% had averages of 2.6 to 3.5, and 14.5% had averages of 1.6 to 2.5. Sixty-nine schools admitted students with college averages of 3.6 to 4.0. In this group fell 1,165 students, or 18.0% of the total. The largest number of such students admitted to one school was 96. All schools admitted students with averages of 2.6 to 3.5 and 4,384, or 67.5%, were in this category. Fifty-eight schools admitted students with averages of 1.6 to 2.5 and 942 students or 14.5% of the total were in this bracket. The largest number of students from this group admitted by one school was 94.

While the figures may not be strictly comparable to those compiled in previous years, it is worthy of note that while the proportion of students in the lowest grade bracket is about the same as last year (15%), there has been a decrease of 12% in the number in the highest bracket and a proportional increase in the middle group. It is of particular interest to note that in the 1950 freshman class, 40% of the students had "A" averages while 9.1% had "C" averages. In other words, while the proportion of students in the lower grade category has increased by about 5% in the past three years, the proportion in the highest category (A or 3.6 to 4.0) has decreased by 22%.

Official figures on the number of applicants to medical schools in the United States have been compiled by the Association of American Medical Colleges⁵ from data provided by the schools. The number of individuals who applied for admission in the year 1952-1953 was 16,763 as compared with 19,920 in 1951-1952. This represents a decrease of 3,157 and is 5,516 less than the number who applied in 1950-1951. This is the fourth consecutive year in which the number of individual applicants has de-

creased, and this year's group is smaller by 7,671, or 31.4%, than that of the peak postwar year 1949-1950. Since 7,425 students were admitted to medical school during the past academic year, it may be calculated that one out of each 2.26 applicants was accepted. Last year, the ratio was one out of 2.68 students and in 1949-1950 it was one for 3.47.

It is also reported in this study that 5,215, or 31.1%, of those applying for admission in the 1951-1952 class had applied and been rejected during the previous year. Of this group, 38.5% were accepted last year. Among those applying to medical school for the first time in 1952-1953, 47.3% were accepted.

This report has emphasized in recent years that the difficulty of gaining admission to medical school has been grossly exaggerated. The statistics presented here amply confirm this fact. The situation in the past year, when there were 2.6 applicants for each place in medical school, was approximately comparable to the year 1929-1930 when there were 2.1 applicants for each available place.

The decline in the ratio of applicants to available places in medical school that has occurred in the past three years has been due not only to a decrease in the actual number of applicants but also to the significant expansion in the facilities for training physicians that has taken place in recent years, an expansion that is still continuing.

There are probably a number of causes for the shrinkage in the size of the applicant pool, and a complete analysis of this problem cannot be undertaken here. However, one major factor is the disappearance of the large backlog of veterans who completed their premedical training following the termination of World War II. Another factor, one that is certain to cause serious concern among medical educators, is the sharp decrease in the number of applicants with superior academic records. While, again, one can only speculate as to the cause, it seems likely that this drop is in no small measure due to increasing competition for such talent from other professional fields. If the present trend continues, many medical schools in this country may soon find themselves hard pressed to recruit adequate compliments of well-qualified students.

The 1953 Freshman Class

The 1952-1953 freshman class, with 7,425 students, was slightly smaller than the record class of 7,441 admitted in 1951-1952. Figures at present available suggest that the 1953-1954 freshman class may show some further slight reduction in the number of students admitted. This leveling off after a period of rapid and marked expansion in enrollments perhaps reflects an adjustment to operation of the present schools at or near their maximum capacity. However, there will be further, significant increases in enrollments when certain established schools complete expansion programs that are now under way and when several new schools, now in the final stages of development, are completed.

By June of this year the schools had already selected 7,068 students. Among the 6,646 men, 851, or 12.8%, were veterans (242, or 12.8%, less than the previous year). There were 422 women, of whom 4 were veterans. The Canadian schools by June had enrolled 675 students; the expected enrollment is 928.

Preparation for General Practice

Medical faculties and medical students alike show a continuing interest in education for family or general practice. Many medical schools report that their primary objective is the preparation of students for general practice and that the major emphasis in their teaching is on education for work in this field. A high proportion of the schools sponsor one or more programs specifically designed to introduce students to this type of practice.

The general objective of preparing students for general practice is implemented in a variety of ways in different schools. At the undergraduate level, this is accomplished through general practice preceptorships, home care and family study programs, general practice clinics, substitution of clerkships in general medical clinics for specialty clinic assignments, and lectures by outstanding general practitioners on the nature of general practice and the opportunities that it offers. In a number of states, scholarship funds have been established for the support of students who wish to practice in small towns or rural areas. Some schools have arranged affiliations with rural hospitals where students are assigned for a part of their clinical clerkship training. In their affiliated hospitals, 25 schools have organized internships and 18 are sponsoring residencies particularly designed to equip the physician for general practice.

Preceptorship Programs

Experimentation with general practice preceptorships is being continued in a number of schools. Three schools that formerly had such programs will discontinue them this year and one school which had planned to initiate a program in 1953 still has the plan under consideration. Thus, the total number of schools having such programs will be reduced from 25 to 21. Table 25 lists the schools that have established preceptorships.

The preceptorship is a required part of the medical course in 10 schools, 1 more than last year, and was elective in 11. The duration of preceptorship assignments ranges from 2 to 12 weeks, with an average of approximately 6 weeks. All of these programs are sched-

TABLE 25.—*Medical Schools Offering Preceptorship Programs, 1952-1953*

University of Arkansas	University of Buffalo
College of Medical Evangelists	Duke University
Yale University	University of Oklahoma
Emory University	University of Oregon
Stritch School of Medicine	University of Pennsylvania
State University of Iowa	University of South Dakota
University of Kansas	University of Texas
University of Louisville	University of Vermont
Boston University	University of Washington
University of Nebraska	University of Wisconsin
Albany Medical College	

uled either during the summer between the third and fourth years or during the fourth year except at one of the two year basic science schools. Nineteen schools reported that last year a total of 917 students served preceptorship assignments.

The faculties of 18 schools were reported to be in general satisfied with the preceptorships. It may be assumed that the three schools that discontinued such programs had not found them satisfactory; two additional schools, although indicating some dissatisfaction, are continuing the program.

Student Fees

Resident tuition fees in the 72 medical schools and the 7 schools of the basic medical sciences in the United States for the academic year 1953-1954 will range from \$99 to \$968 except for one school, which will charge a fee of \$1,291. The median fee will be \$715 as compared with \$689 last year. The average fee will be \$633 as compared with \$623 in 1952-1953. Only 11 schools have announced any increase in fees for the coming academic year. These increases range from \$10 to \$119. The average tuition fee now stands at 164% of the average tuition fee in 1939-1940, which was \$378. As pointed out in the preceding section, however, student fees will provide only

TABLE 26.—*Range of Annual Fees in Medical and Basic Science Schools in the United States and Canada*

	1952-1953		1953-1954	
	Number of Schools		Number of Schools	
	United States	Canada	United States	Canada
Less than \$99.....	1	..	1	..
\$100 to 199.....	4	..	4	..
200 to 299.....	6	..	3	..
300 to 399.....	6	3	9	2
400 to 499.....	11	6	11	7
500 to 599.....	7	2	7	2
600 to 699.....	5	..	3	..
700 to 799.....	6	..	7	..
800 to 899.....	26	..	26	..
900 to 999.....	6	..	7	..
1,000 and over.....	1	..	1	..
Totals.....	79	11	79	11

20.1% of the cost of operating the medical schools during the forthcoming year.

In table 26 the 90 medical schools and schools of the basic sciences in the United States and Canada have been arranged in groups according to the fees that will be charged resident students for the session 1953-1954. This table also gives comparable statistics for the year 1952-1953. The figures in this table represent one-fourth of the total fees charged students for the four years of the medical course, including tuition fees and minor charges such as those for matriculation, breakage, diploma, and graduation. Thirty-one schools in the United States make an additional charge for nonresident students. In 29 schools these charges range from \$80 to \$600. One school charges nonresident students an additional fee of \$1,100 and another an additional fee of \$2,130.

Cost of Attending Medical School

The schools were requested this year to estimate the cost to their students of attending medical school. They were requested to include in the estimates all essential costs such as tuition and other fees, books, equipment, travel, and living costs. Seventy-seven schools provided the data requested. The average minimum outlay was estimated at \$1,682, with a high of \$3,300, a median of \$1,680 and a low of \$733. Estimates of the average cost averaged \$2,083, with a high of \$4,500, a median of \$2,000, and a low of \$900.

When similar figures were requested of the schools three years ago the median minimum outlay was estimated at \$1,473 as compared to \$1,680 this year, and the median for the average outlay was \$1,800 as compared to \$2,000.

Scholarship and Loan Funds

This year for the first time the medical schools were requested to furnish information concerning the total amount of scholarship and loan funds available to their students from funds held by or directly controlled by the medical schools and/or their parent universities. The 62 schools that reported on scholarship funds had available an average of \$12,014. The largest amount reported was \$110,625, the lowest \$300, and the median \$7,500. Seventy-three schools reporting on loan funds had an average of \$41,201 available, with a high of \$500,000, a median of \$41,201, and a low of \$500.

These are by no means the sole sources of financial aid available to undergraduate medical students. Some state governments have scholarships for their own residents and in 12 states special subsidies are offered to students who will agree to practice in small towns or rural areas. Additional aid is provided through the Southern Regional Education Board whereby the governments of 11 Southern states have contracted with a group of Southern medical schools for the education of a certain number of their residents. Through the Western Governors' Conference, a similar compact has been developed by five Western states. A third regional education plan is being actively considered for the New England states, and three states, Vermont, New Hampshire and Maine, have already passed enabling legislation to facilitate the activation of such a plan.

Private and Governmental Medical Schools

The medical schools in the United States are listed in table 27 according to the nature of their ownership. There were no changes of ownership during the last year. Forty-one schools are owned by private nonprofit corporations exempt from federal taxation; 35 schools are owned by states and three by municipal governments.

Enrollments in the private schools during 1952-1953 totaled 14,517, or 52.4% of the total for the country. The enrollment in state and municipal schools was 13,171, or 47.6%. Both groups of schools have shown an increase in total enrollments in the last three years. The increase has been slightly greater proportionally in the government owned schools which in 1949-1950 enrolled 45.1% of all medical students as compared with 47.6% during 1952-1953.

Freshman students in private schools numbered 3,748, or 50.5% of the total, and 3,677, or 49.5%, in the state and municipal schools. There has been a gain in the past three years by the governmental schools of 1.9% of the total freshman students enrolled.

Statistics with respect to resident and nonresident student enrollment in state and municipal as compared with private schools are presented in the section on the geographic sources of freshman students. Budgets of state and municipal schools for 1953-1954 will total approximately \$43,854,000 and for the private schools \$43,550,000. For the government owned schools this represents an increase of \$4,654,000 over a year ago and for the private schools an increase of \$1,885,000. During the past three years the budgets of the state and municipal schools have increased approximately \$12,854,000 while those of the private schools have increased by \$7,000,000.

Tuition fees of state and municipal schools for residents of their own state will vary in 1953-1954 from \$99 to

TABLE 27.—*Medical Schools Classified by Ownership, 1952-1953*

Privately Owned	
1.	College of Medical Evangelists
2.	Stanford University School of Medicine
3.	University of Southern California School of Medicine
4.	Yale University School of Medicine
5.	Georgetown University School of Medicine
6.	George Washington University School of Medicine
7.	Howard University College of Medicine
8.	Emory University School of Medicine
9.	Chicago Medical School
10.	Northwestern University Medical School
11.	Stritch School of Medicine of Loyola University
12.	University of Chicago, The School of Medicine
13.	Tulane University of Louisiana School of Medicine
14.	Johns Hopkins University School of Medicine
15.	Boston University School of Medicine
16.	Harvard Medical School
17.	Tufts College Medical School
18.	St. Louis University School of Medicine
19.	Washington University School of Medicine
20.	Creighton University School of Medicine
21.	Dartmouth Medical School
22.	Albany Medical College
23.	Columbia University College of Physicians and Surgeons
24.	Cornell University Medical College
25.	New York Medical College, Flower and Fifth Avenue Hospitals
26.	New York University College of Medicine
27.	University of Buffalo School of Medicine
28.	University of Rochester School of Medicine and Dentistry
29.	Duke University School of Medicine
30.	Bowman Gray School of Medicine of Wake Forest College
31.	Western Reserve University School of Medicine
32.	Hahnemann Medical College and Hospital of Philadelphia
33.	Jefferson Medical College of Philadelphia
34.	Temple University School of Medicine
35.	University of Pennsylvania School of Medicine
36.	University of Pittsburgh School of Medicine
37.	Woman's Medical College of Pennsylvania
38.	Meharry Medical College
39.	Vanderbilt University School of Medicine
40.	Baylor University College of Medicine
41.	Marquette University School of Medicine
State Owned	
1.	Medical College of Alabama
2.	University of Arkansas School of Medicine
3.	University of California School of Medicine
4.	University of Colorado School of Medicine
5.	Medical College of Georgia
6.	University of Illinois College of Medicine
7.	Indiana University School of Medicine
8.	State University of Iowa College of Medicine
9.	University of Kansas School of Medicine
10.	Louisiana State University School of Medicine
11.	University of Maryland School of Medicine and College of Physicians and Surgeons
12.	University of Michigan Medical School
13.	University of Minnesota Medical School
14.	University of Mississippi School of Medicine
15.	University of Missouri School of Medicine
16.	University of Nebraska College of Medicine
17.	State University of New York College of Medicine at New York City
18.	State University of New York at Syracuse, College of Medicine
19.	University of North Carolina School of Medicine
20.	University of North Dakota School of Medicine
21.	Ohio State University College of Medicine
22.	University of Oklahoma School of Medicine
23.	University of Oregon Medical School
24.	Medical College of South Carolina
25.	University of South Dakota School of Medicine
26.	University of Tennessee College of Medicine
27.	Southwestern Medical School of The University of Texas
28.	University of Texas School of Medicine
29.	University of Utah School of Medicine
30.	University of Vermont College of Medicine
31.	Medical College of Virginia
32.	University of Virginia Department of Medicine
33.	University of Washington School of Medicine
34.	West Virginia University School of Medicine
35.	University of Wisconsin Medical School
Municipally Owned	
1.	University of Louisville School of Medicine
2.	Wayne University College of Medicine
3.	University of Cincinnati College of Medicine

\$800, with a median of \$406. For private schools, tuition fees will range from \$508 to \$1,291, with a median of \$832.

Vacancies in Instructional Staffs

The total numbers of full-time faculty positions that medical schools were unable to fill have been reported for the past four years. This year the schools were asked to indicate which of these vacancies are in newly created positions and which were positions budgeted for in the academic year 1952-1953. These figures are summarized in table 28.

The total number of unfilled positions was 283, the highest number since the 441 reported in 1949, and it exceeds by 88 the number of vacancies reported last year. The 120 vacancies on the staffs of preclinical departments was 16 more than last year but less than in the

TABLE 28.—Number of New and Budgeted Unfilled Full Time Positions by Departments in the Medical and Basic Science Schools of the United States, 1953-1954

	New	Budgeted 1952-1953	Number of Unfilled Positions
Preclinical departments			
Pathology	14	20	34
Anatomy	8	10	18
Physiology	7	11	18
Physiological Chemistry.....	4	12	16
Pharmacology	5	10	15
Microbiology	5	5	10
Bacteriology	4	5	9
Total	47	73	120
Clinical Departments			
Pediatrics	21	9	30
General Surgery.....	16	12	28
Psychiatry	9	16	25
Internal Medicine.....	11	12	23
Obstetrics and Gynecology.....	6	10	16
Radiology	5	8	13
Preventive Medicine and Public Health	5	5	10
Anesthesiology	3	..	3
Neurology	1	2	3
Ophthalmology .....	..	2	2
Orthopedic Surgery.....	..	2	2
Physical Medicine and Rehabilitation..	1	1	2
Urology .....	..	2	2
Dermatology .....	..	1	1
Neurological Surgery.....	..	1	1
Otolaryngology .....	..	1	1
Otology .....	..	1	1
Total	78	85	163
Grand Totals	125	158	283

other three preceding years. It is of interest that 47, or more than one-third of these vacancies, represented newly created positions. Anatomy, pathology and physiology, as in the preceding two years, had the greatest number of vacancies. Pathology departments had 34 unfilled posts; anatomy and physiology departments each had 18.

Clinical departments reported 163 unfilled billets, of which 78 or nearly half were new positions. The departments reporting the largest numbers of vacancies were pediatrics 30, general surgery 28, psychiatry 25, internal medicine 23, and obstetrics and gynecology 16. Pediatrics and surgery both had almost three times as many vacancies as in the preceding year. About two-thirds of the positions in pediatrics and almost half in surgery were in new posts. There were 30 schools that reported no vacancies in their full-time faculties.

The vacancies in newly created positions is of particular interest. These figures for the basic science departments probably result from the enlargement of these

staffs made necessary by expansion of student enrollments; for the clinical departments they reflect the increasing tendency in recent years to employ full-time teachers, especially in the major clinical disciplines.

New Medical Schools

There have been several developments of importance during the past year with respect to the establishment of new medical schools and the expansion of schools of the basic medical sciences to full four year medical schools. Two new schools, the University of Puerto Rico School of Medicine and the University of British Columbia School of Medicine, had classes enrolled in the first three years of the medical school course during the past academic year and during the coming academic year will have students enrolled in all four classes. These schools will graduate their first classes in June, 1954. The University of North Carolina, which is expanding to a four year school, enrolled its first third year class during the past year, will have a fourth year class enrolled in 1953-1954 and will graduate its first class in June, 1954.

With respect to the eligibility of the graduates of these schools for internships during the year 1954-1955, the Council has adopted the following statement:

ELIGIBILITY OF 1954 GRADUATES OF NEW MEDICAL SCHOOLS FOR INTERNSHIPS

The Council on Medical Education and Hospitals has voted that students who will graduate from the University of North Carolina School of Medicine, the University of Puerto Rico School of Medicine and the University of British Columbia School of Medicine in 1954 will be considered as if they had graduated from an approved medical school. Hospitals approved for intern training will not lose their approved status if they accept these students for internships.

The development of these three schools of medicine has been followed closely by the Council. In accordance with long standing policy, however, approval is not granted to any medical school until representatives of the Council survey the school after instruction has been instituted in all four years of the medical school course. The first senior classes at these medical schools will not be enrolled until the fall of 1953. Inspection of these schools, therefore, cannot be carried out in time to include the findings of the surveys in the 1953 Educational Number of THE JOURNAL which will be used by hospitals for determining whether applicants for internship are graduates of an approved medical school. If these three schools are included in the Council's approved list in 1954, the work of all students in good standing at the schools at the time of the Council's representatives survey the schools will be fully accredited.

Another new school, the University of California at Los Angeles, which admitted its first freshman class in the fall of 1951, will have freshman, sophomore, and junior classes enrolled during the coming year. The University of Miami School of Medicine admitted its first freshman class in the fall of 1952 and during the coming academic year will have both a freshman and a sophomore class enrolled.

Statistics for these new schools do not appear in the various tables included in this report. By custom the Council includes in this report only statistics from approved medical schools. No medical school is eligible for consideration for admission to the list of approved medical schools until its full four year program is in operation.

The University of Mississippi, which is expanding from a school of the basic medical sciences to a four year medical school, has made substantial progress during the past year in the construction of a new medical school building and university hospital at Jackson. It is tentatively expected that a junior class will be enrolled in the fall of 1955. Construction of a new medical school build-

plant. No date has yet been set for enrolling a third year class.

Yeshiva University in New York City, which announced two years ago its intention of developing a medical school, has named the school the Albert Einstein College of Medicine and is proceeding actively with plans for construction that it is hoped can be initiated in the

TABLE 29.—Foreign Medical Schools

List Prepared by the Council on Medical Education and Hospitals of the American Medical Association and the Executive Council of the Association of American Medical Colleges

On the basis of information presently available, the Council on Medical Education and Hospitals of the American Medical Association and the Executive Council of the Association of American Medical Colleges are of the opinion that medical institutions and medical organizations in the United States would be justified in considering current and past graduates of the following foreign medical schools on the same basis that they consider graduates of approved medical schools in the United States. This list is not final and will be supplemented as information is compiled for other schools.

Belgium

Free University of Brussels Faculty of Medicine
(Université Libre de Bruxelles Faculté de Médecine)
Catholic University of Louvain Faculty of Medicine
(Université Catholique de Louvain Faculté de Médecine or Katholieke Universiteit te Leuven)
University of Ghent Faculty of Medicine
(Universiteit te Gent Faculteit der Geneeskunde, or Université de Gand Faculté de Médecine)
University of Liège Faculty of Medicine
(Université de Liège Faculté de Médecine)

Brazil

University of São Paulo Faculty of Medicine
(Universidade de São Paulo Faculdade de Medicina)

China

Peiping Union Medical College

This recommendation applies to all those graduates who were granted the degree of Doctor of Medicine from the date when the first degrees were conferred in 1924 until and including the class of 1943. The education of students in the last class, that of 1943, was interrupted by World War II; therefore, some students finally completed their studies as late as 1949. However, their diplomas were issued as of the class of 1943. Following the Communist conquest of China the name of this school was changed to the China Union Medical College. The recommendation does not apply to this school.

Denmark

University of Copenhagen Faculty of Medicine
(Københavns Universitet Lægevidenskabelige Fakultet)

Finland

University of Helsinki Faculty of Medicine
(Helsingfors Universitet Medicinska Fakulteten)
Medical Faculty Turku University
(Turun Yliopiston Laaketieteellinen Tiedekunta)

Lebanon

American University of Beirut School of Medicine

Netherlands

University of Amsterdam Faculty of Medicine
(Universiteit van Amsterdam Geneeskunde Faculteit)
State University of Groningen Faculty of Medicine
(Rijks-Universiteit te Groningen Geneeskunde Faculteit)
State University of Leiden Faculty of Medicine
(Rijks-Universiteit te Leiden Faculteit der Geneeskunde)
State University of Utrecht Faculty of Medicine
(Rijks-Universiteit te Utrecht Faculteit der Geneeskunde)

Norway

University of Oslo Faculty of Medicine
(Kongelige Frederiks Universitet Medisinske Fakultet)

Sweden

Royal Charles University Medical Faculty, Lund
(Kungl. Karolinska Universitetet Medicinska Fakulteten)
Charles Medico-Surgical Institute, Stockholm
(Karolinska Mediko-Kirurgiska Institutet)
Royal University of Uppsala Medical Faculty
(Kungl. Universitetet i Uppsala Medicinska Fakulteten)

Switzerland

University of Basel Faculty of Medicine
(Universität Basel Medizinische Fakultät)
University of Bern Faculty of Medicine
(Universität Bern Medizinische Fakultät)
University of Geneva Faculty of Medicine
(Université de Genève Faculté de Médecine)
University of Lausanne Faculty of Medicine
(Université de Lausanne Faculté de Médecine)
University of Zurich Faculty of Medicine
(Universität Zurich Medizinische Fakultät)

The recommendation with respect to the following medical schools in Switzerland applies only to those graduates of Swiss medical schools who hold the Swiss Federal Diploma issued by the Federal Department of the Interior (Eidgenössisches Department Des Innern, Département Fédéral de L'Intérieur) and obtainable only by Swiss citizens who hold the Certificate of Medical Studies (Akademische Zeugnis, Certificat d'Études Médicales), or who hold one of the following certificates which the Swiss Universities issue to those, not citizens of Switzerland, who complete a course of study and pass examinations equivalent to those taken by Swiss citizens in qualifying for the Swiss Federal Diploma:

University of Basel—Academic Certificate on passing the medical examination for physicians (Akademische Zeugnis über die bestandene Fachprüfung für Ärzte).

University of Bern—Medical diploma on passing examination for medicine (Ärztliches Fakultats diplom über die bestandene Fachprüfung für Ärzte).

University of Geneva and University of Lausanne—Certificate of Medical Studies (Certificat d'Études Médicales).

University of Zurich—Medical diploma for Foreigners (Medizinisches Diplom für Ausländer).

United Kingdom**England**

University of Birmingham Faculty of Medicine
University of Bristol Faculty of Medicine
University of Cambridge Faculty of Medicine
University of Durham Medical School, Newcastle-upon-Tyne
University of Leeds Faculty of Medicine
University of Liverpool Faculty of Medicine
University of London †
University of Manchester Faculty of Medicine
University of Oxford Faculty of Medicine
University of Sheffield Faculty of Medicine

Northern Ireland

Queen's University of Belfast Faculty of Medicine

Scotland

University of Aberdeen Faculty of Medicine
University of Edinburgh Faculty of Medicine
University of Glasgow Faculty of Medicine
University of St. Andrews Medical School, St. Andrews and Dundee

Wales

Welsh National School of Medicine, University of Wales, Cardiff

The recommendation applies only to those physicians trained in the United Kingdom who hold medical degrees from the universities listed. The recommendation does not apply to those physicians who received their medical training at these universities or their affiliated hospital medical schools but who did not complete the work for the degree and who obtained their qualifications only through the examinations of the licensing corporations of the United Kingdom.

† Work for the medical degree of the University of London is offered at the following hospital medical schools:

Charing Cross Hospital Medical School
Guy's Hospital Medical School
King's College Hospital Medical School
London Hospital Medical School

Middlesex Hospital Medical School
Royal Free Hospital School of Medicine
St. Bartholomew's Hospital Medical College
St. George's Hospital Medical School

St. Mary's Hospital Medical School
St. Thomas' Hospital Medical School
University College Hospital Medical School
Westminster Hospital Medical School

ing and hospital has also been started at West Virginia University, which is also expanding to a four year school; however, no date has been set for enrollment of a third year class.

The University of Missouri, which received an appropriation of 6 million dollars in 1952 to enable it to expand its basic science school to a four year school at Columbia, is proceeding actively with plans for the new physical

fall of 1953. It is hoped that the first freshman class can be enrolled in the fall of 1955.

During the spring of 1953 the Florida legislature provided 5 million dollars as an initial appropriation for the development of a medical school by the University of Florida at Gainesville.

In Kentucky, interest in developing a medical school under the auspices of the University of Kentucky in Lex-

ington continues, and the legislative research commission is preparing a report on this project for submission to the 1954 session of the legislature.

There has been no action with respect to establishing new medical schools in New Jersey, Massachusetts, and Connecticut, three states that have been giving serious study to the possibility of establishing schools within recent years. In the New England states, however, considerable discussion is being given to a New England regional higher education plan, which would include a medical school. Vermont, Maine and New Hampshire have already passed enabling legislation for participation by those states in such a plan.

Foreign Medical Schools

In February, 1950, the Council on Medical Education and Hospitals of the American Medical Association and the Executive Council of the Association of American Medical Colleges first published a list of foreign medical schools whose graduates they recommend for consideration on the same basis as graduates of approved medical schools in the United States. The list is intended as a guide for institutions and organizations in this country who deal with foreign medical graduates and also as an aid to American students who plan to study medicine abroad.

Data on which this list is based are provided largely by American medical educators who, while on trips abroad, have volunteered to visit and report on foreign medical schools. In evaluating these data and developing the list, valuable assistance has been given by the Committee on Foreign Medical Credentials. This committee, established to advise the Council, is made up of representatives of a large number of private and governmental agencies which are concerned with medical education, medical licensure, and the problems of foreign trained physicians.

It has been emphasized that this list is a tentative one to which additional schools may be added as data are received that justify their inclusion. Hence, the absence of a school from the list does not necessarily imply that its educational program is unacceptable. It has not been possible to develop a satisfactory program for the evaluation of certain formerly reputable foreign schools whose programs are known to have deteriorated as a result of the war and subsequent events. Evaluation of the credentials of graduates from schools not named in the list is, therefore, a responsibility of those other agencies and organizations to whom such individuals apply for recognition. The Councils can offer no advance statement concerning schools which might in the future be included in the list.

Table 29 names the 50 schools now included in the list. The only change made during the past year was the inclusion of the Peiping Union Medical College. This school was renamed the China Union Medical College following the communist conquest of China and the recommendation does not apply to graduates of this latter school. The list is now accepted by 26 of the state licensing boards and by the National Board of Medical Examiners.

American Students In Foreign Medical Schools

Statistics were reported last year on the number of American students enrolled in foreign medical schools. The foreign schools were requested to furnish similar information again this year, and additional data were secured with the assistance of the Department of State and the National Selective Service System.

Figures for the 188 foreign schools from which data were secured are summarized in table 30. Countries are listed in order of the number of American students enrolled. A total of 1,734 students from the United States were enrolled in 72 foreign medical schools located in 22 different countries. As was true a year ago, the countries with the largest numbers of American students were

TABLE 30.—Distribution of American Students in Foreign Medical Schools, 1952-1953

Country	No. of Schools	No. of Replies	Schools with American Students	Total No. of Students
Switzerland	6	5	6	471*
Spain	9	1	1	393*
Italy	21	10	8	199
Mexico	17	13	3	180*
France	16	10	7	85*
Germany	24	17	13	83
Belgium	5	4	4	64
Dominican Republic.....	1	1	1	60*
Netherlands	4	1	1	55
Austria	3	3	3	31
Ireland	5	4	4	30
Australia	4	3	3	18
Greece	1	1	1	11
Great Britain	26	21	6	10
Cuba	1	0	0	10*
Chile	3	1	0	9*
Argentina	6	4	2	6*
Uruguay	1	1	1	4*
Philippines	2	2	2	4
Colombia	5	5	2	3
Sweden	4	4	2	3
Denmark	2	2	1	2
Lebanon	2	2	1	2
Peru	1	1	1	1
Bolivia	5	5	0	0
Ecuador	3	2	0	0
Finland	2	2	0	0
Guatemala	1	1	0	0
Haiti	1	1	0	0
Honduras	1	1	0	0
Iceland	1	1	0	0
New Zealand.....	1	1	0	0
Norway	2	2	0	0
Paraguay	1	1	0	0
Venezuela	3	3	0	0
Totals	188	137	72	1,734*

* Included in total number of students are the following figures for students from Puerto Rico supplied by the Selective Service System.

Spain	386
Mexico	126
Dominican Republic.....	38
Cuba	10
Chile	9
France	5
Switzerland	2
Uruguay	2
Argentina	1
.....	579

Switzerland, Spain, and Italy. Other countries having more than 50 such students are Mexico, Germany, France, Belgium, the Dominican Republic, Austria, and the Netherlands. The footnote to table 30 indicates that about one-third of the entire student group are from Puerto Rico.

Table 31 recapitulates the figures for 1951-1952 and 1952-1953. Figures are available this year for 4 more countries and 13 more schools than last year. The number of foreign schools reporting American students has decreased by 6, but the total number of such students reported has increased by 613. The numbers of Puerto Rican students enrolled abroad has increased from 303 to 579.

Table 32 lists, in order, the schools with the largest numbers of American enrolled. This table is not comparable to the similar one prepared last year, since some schools for which data were available last year, for example, the University of Madrid, which had 150 American students, did not reply this year and others like the University of Lausanne, which this year reported 110 students, provided no data last year. The four schools with

TABLE 31.—*Distribution of American Students in Foreign Medical Schools, 1951-1953*

	No. of Countries	No. of Schools	No. of Replies	Schools with American Students	Total No. of Students
1951-1952.....	81	176	124	78	1,121*
1952-1953.....	85	188	137	72	1,734†

* Includes 303 students from Puerto Rico studying in 8 countries reported by Selective Service System.

† Includes 579 students from Puerto Rico studying in 9 countries reported by Selective Service System.

more than 100 American students enrolled were, in order, University of Geneva (180), University of Rome (150), National University of Mexico (113), and University of Lausanne (110).

Figures which were received on the distribution of students by classes appear in table 33. In this group of 614 students, 70% are enrolled in the first three classes. Information is not available to explain, with certainty, the fact that the largest number of students are enrolled in second year classes. However, since a large portion of the first two years in many foreign medical schools is devoted to subjects which are usually included in pre-medical courses in this country, it is likely that many

TABLE 32.—*Foreign Medical Schools with Largest Numbers of American Students Enrolled, 1952-1953*

Name of University	American Students Enrolled	Total Enrollment
Geneva (Switzerland)	180	728
Rome (Italy)	156	.....
National University (Mexico).....	113*	6,000
Lausanne (Switzerland)	110	487
Bern (Switzerland)	87	600
Zurich (Switzerland)	77	842
Santo Domingo (Dominican Republic)..	60	858
Paris (France)	59	6,994
Leiden (Netherlands)	55	1,547
Heidelberg (Germany)	39	975
Monterrey (Mexico)	34	.....
Brussels (Belgium)	32	659
Louvain (Belgium)	25	1,776
Padua (Italy)	25	1,385
Vienna (Austria)	21	1,476
Galway (Ireland)	19	187
Munich (Germany)	15	1,665
Basel (Switzerland)	15	540
Montpellier (France)	11	1,250
Athens (Greece)	11	1,800

* Includes 95 students from Puerto Rico.

American students, by obtaining credit for premedical studies completed in the United States, have been able to gain admission to advanced standing. It is possible, therefore, that a substantial proportion of the second year group are students who were first admitted to foreign schools during the past academic year.

The caution which was voiced in this section last year will bear repetition. Correspondence received by the Council from American students enrolled in foreign med-

ical schools and information received from other sources indicate that many of these students hope that, at the end of a year or two, they will be able to transfer to an American school. The likelihood of their being able to do so is small, not only because American schools are filled to capacity but also because differences in the organization of the curriculum of foreign schools make it difficult to fit such students into the programs of American schools.

Students who plan to study medicine abroad are also cautioned to determine whether or not the credentials which they will obtain will be recognized in this country. It is apparent that many of these students have not fully informed themselves concerning the educational standards of foreign schools. While there are many such schools whose excellence is rather widely recognized in the United States, there are others whose credentials may not be accepted by the licensing authorities. Students who are planning to study medicine abroad are therefore urged to communicate directly with the licensing boards of

TABLE 33.—*Enrollment of American Medical Students by Classes, 1952-1953*

Country	1st	2d	3d	4th	5th	6th
Australia	4	5	7	2	..	..
Austria	1	2	4	1	1	..
Belgium	8	36	5	6	3	2
Dominican Republic.....	5	6	5	3	2	1
England	3	..	1	1	1	..
France	47	11	7	2	1	2
Germany	25	18	9	8	1	1
Greece	3	5	..	1	1	1
Ireland	8	5	5	7	5	..
Italy	2	61	66	39	6	21
Lebanon .....	..	1	1	..	..	..
Mexico	23	5	5	2	..	1
Peru .....	..	1	..	..	..	..
Philippines	1	1	..	..	..	..
Scotland .....	..	1	..	..	..	2
Switzerland .....	..	14	12	47	10	4
Totals	180	172	127	119	31	35

* Only some of the schools supplied this information; therefore, the totals within some countries differ from those found in table 30.

states where they hope to practice and to determine in advance of enrollment whether or not the credentials which they will receive are acceptable.

The Council has prepared a compendium of information on foreign medical education and the status of foreign medical credentials in the United States.⁶ Reprints of this publication will be furnished on request, without charge.

Postgraduate and Continuation Courses for Physicians

The Council on Medical Education and Hospitals has published semiannually in THE JOURNAL a listing of postgraduate and continuation courses for physicians for the past 17 years. The opportunities presented in these listings include a wide variety of fields in clinical medicine and the basic sciences. The courses offered are for variable periods. With the exception of the formal basic science courses, these courses are not usually intended to prepare physicians for certification by the American boards in the specialties. Some opportunities are offered, however, for review work in preparation for the examinations of the

6. To be published.

specialty boards. The current listing was published in the June 13, 1953, issue of THE JOURNAL.

This section is devoted to an analysis of the courses offered during the period July 1, 1952, to June 30, 1953. Brief mention is also made of some of the recent developments in postgraduate education. The statistical summaries are divided into three groups: short review courses of less than five days, courses of five days' duration or longer and, lastly, a group including clinical conferences, graduate assemblies, seminars, study, and circuit courses. Comparable figures are shown for the preceding seven years.

RECENT DEVELOPMENTS

Several institutions introduced new subjects this year. The American Diabetes Association, Inc., of New York conducted a four day program in Toronto on "Diabetes and Basic Metabolic Problems." Applications for this course exceeded the facilities available. A course in legal medicine and the elements of medical-legal litigation was given by the University of Texas Medical Branch at Galveston. The University of Buffalo Medical School presented a two day course for physicians on "The Laboratory in Clinical Diagnosis," designed to keep the practitioner up-to-date on developments in the laboratory sciences and to improve his diagnostic accuracy. The course included discussions of the basic physiology and biochemistry involved in laboratory diagnosis, evaluation of tests, and the interpretation and demonstration of selected procedures. The Extension Division of the University of California at Los Angeles was able to utilize the results of six years of research experience by the engineering department to present a six week's course in "Prosthetics." This course was open to occupational and physical therapists and prosthetists as well as physicians and was repeated a number of times in order to accommodate groups from various regions throughout the country.

Programs in general practice increased throughout the country. The Illinois Academy of General Practice sponsored a series of courses for its members at 10 widely separated centers throughout the state during March and April. Several of the medical schools in Chicago participated in this program. The Frank E. Bunts Educational Institute of the Cleveland Clinic Foundation inaugurated a two day general practice program in May. This course was sponsored jointly by the Institute and the Cuyahoga County Chapter of the American Academy of General Practice. Other organizations also added general practice refresher courses to their programs.

In many programs an effort in the direction of more individualized teaching methods was noted. The Los Angeles County Heart Association offered "Postgraduate Preceptorships in Cardiology" for the general practitioner. These preceptorships involved 12 sessions in which the physician-student and his preceptor discussed and interpreted the electrocardiograms and learned the latest methods of diagnosis and treatment while observing patients over a period of several visits. The new program of the Commission on Graduate Education of the Medical Society of the State of Pennsylvania included panel discussions, clinics, and round-table discussions.

Various postgraduate teaching techniques have been employed for the convenience of the practicing physician. Telephone seminars, consisting of panel discussions emanating from a central point to local county medical society groups throughout the state, were utilized by the state medical societies of Indiana, Kentucky, Pennsylvania, and Texas. Recordings of the Indiana program were used in Arizona for one of the programs of the state medical association. Recordings are also being developed as a mode of postgraduate communication by several other groups. Televised postgraduate programs of short duration were given by the universities of Alabama, Kansas, and Maryland. In all cases the program was televised intramurally, and surgery was the major subject presented. Plans are under consideration by a number of other institutions for the use of television in postgraduate programs. The American Cancer Society is planning a series of forty color television programs, all designed for the practicing physician. More and more medical schools are endeavoring to take their courses to the doctor in lieu of his coming to school. This is particularly true for the general practice refresher programs.

The Tennessee State Medical Association has just completed a circuit course on "Internal Medicine and Circulatory Diseases." Ten sessions were held in each of 50 teaching centers. In California, the state medical association utilized outlying centers for programs that in each case were presented by teams recruited from the faculties of the five medical schools of the state. Faculty members of the University of Colorado School of Medicine conducted one or two day postgraduate sessions at regular intervals in strategic centers. Similar programs were offered in Michigan, North Carolina, Pennsylvania, and Wisconsin.

In those states where ample clinical facilities are not available, medical schools in adjacent states have cooperated by sending teaching teams into these areas for one or more postgraduate programs. In this way, the physician in these states can obtain postgraduate training in or near his home community. The University of Utah School of Medicine sent a team to Arizona while the University of Colorado supplied teams in New Mexico and Wyoming as a part of its extension program. The University of Kansas School of Medicine presented an extensive program designed specially for physicians in nearby cities in Missouri. Several other medical schools contributed to the postgraduate needs of their region outside their own state, either by extension programs or special intramural programs for the physicians of these neighboring states.

The many different organizations and institutions who are engaged in postgraduate education have recognized the need for joint action or coordination in the interest of economy and efficiency of their various activities. In Massachusetts this has led to the development of the Postgraduate Medical Institute, which is sponsored by the three medical schools in Boston, the state medical society, the state health department, and representatives of a number of voluntary health agencies. By pooling resources and ideas, these organizations have been able to coordinate effort and to present a number of jointly spon-

sored programs. The initial experience with this program has proved successful, and it is planned to expand it for the coming year.

Coordination of the efforts of a number of interested groups is illustrated again by the course in "Treatment of Emergencies" conducted by the Southwestern Medical School of the University of Texas in association with the Texas Medical Association, Texas Academy of General Practice, the Dallas Southern Clinical Society, and the Postgraduate School of the University of Texas. Michigan and Wisconsin have been operating their programs on this basis for some time. Other states are considering adopting a similar pattern.

Recognizing the constant growth of interest and activity in the whole field of postgraduate medical education, the Council has been engaged for the past year in a comprehensive study of this field. This has involved personal visits to all of the major organizations and institutions involved in this kind of work, and first hand observation of a number of programs in action. Material derived from this survey is being supplemented by written data and

TABLE 34.—Short Review Courses of Less Than Five Days' Duration, 1952-1953

State Where Given	No. of Courses	State Where Given	No. of Courses
Arkansas.....	8	New Jersey.....	1
California.....	19	New York.....	60
Colorado.....	4	North Carolina.....	4
Connecticut.....	1	Ohio.....	8
Delaware.....	1	Oklahoma.....	11
District of Columbia.....	4	Oregon.....	4
Illinois.....	16	Pennsylvania.....	12
Indiana.....	3	South Carolina.....	2
Iowa.....	8	Tennessee.....	1
Kansas.....	15	Texas.....	24
Louisiana.....	2	Utah.....	8
Massachusetts.....	22	Vermont.....	9
Michigan.....	44	Virginia.....	5
Minnesota.....	18	Washington.....	7
Missouri.....	1	Wyoming.....	1
Nebraska.....	1		
Total.....	324		

information derived from a questionnaire study. It is hoped that the results of this study will be ready for publication some time early in 1954.

ANALYSIS OF COURSES OFFERED, 1952-1953

Courses of Less Than Five Days' Duration.—During 1952-1953, 30 states and the District of Columbia provided opportunities of less than five days' duration for physicians desiring to continue postgraduate study in or near their home communities. There were 324 courses offered. Table 34 lists these states and the number of courses given in each state. Thirty-eight subjects were covered. Table 35 lists the subjects and the number of courses given in each subject. The attendance numbered 9,452.

The courses varied in length from sessions of one hour or a series of five or more lectures to four days full time and consisted of organized courses, clinics utilizing hospital patients, lectures, and demonstrations. Of the 324 courses offered, 40 were four day courses, 121 were three day courses, 122 were two day courses, and 21 were given in one full day. The remainder of the courses were reported by lectures, sessions, or hours. Forty medical schools participated in 253 of the courses offered. Other sponsoring agencies included hospitals in 44 instances and the Medical Department of the Army, special socie-

ties, and a graduate school in the remainder of the courses.

These opportunities were offered in every month except August. Sixteen courses were offered continuously and 21 quarterly. The instructors were chosen from the facul-

TABLE 35.—Short Review Courses of Less Than Five Days' Duration, 1952-1953

Subject	No. of Courses Given
Allergy.....	1
Anatomy.....	2
Arthritis.....	4
Anesthesiology.....	9
Bacteriology.....	2
Basic Sciences.....	2
Biochemistry.....	9
Cardiovascular Diseases.....	19
Dermatology and Syphilology.....	16
Diabetes.....	5
Electrocardiography.....	11
Endocrinology.....	9
Endoscopy.....	1
Fractures.....	2
Gastroenterology.....	8
Geriatrics.....	3
Hematology.....	10
Internal Medicine.....	18
Malignant Disease.....	4
Medicine, General.....	54
Neurology and Psychiatry.....	11
Obstetrics and Gynecology.....	25
Ophthalmology.....	2
Orthopedics.....	1
Pathology.....	2
Pediatrics.....	15
Pharmacology.....	1
Physical Medicine.....	1
Physiology.....	2
Physiological Chemistry.....	5
Poliomyelitis.....	3
Proctology.....	3
Public Health.....	4
Pulmonary Disease.....	6
Radiology.....	17
Surgery.....	29
Urology.....	7
Venereal Disease.....	1
Total.....	324

ties of medical schools and from physicians practicing in the state. Medical school instructors participated exclusively in 71 courses and 66 were given by physicians in the state, while combinations of medical school instruc-

TABLE 36.—Postgraduate Courses of Five Days or Longer, 1952-1953

State Where Given	No. of Courses	State Where Given	No. of Courses
Alabama.....	2	Michigan.....	21
Arkansas.....	2	Minnesota.....	6
California.....	73	Missouri.....	2
Colorado.....	5	New York.....	289
Connecticut.....	4	North Carolina.....	2
Delaware.....	1	Ohio.....	6
District of Columbia.....	12	Oklahoma.....	9
Florida.....	4	Oregon.....	11
Georgia.....	8	Pennsylvania.....	58
Illinois.....	128	Tennessee.....	6
Indiana.....	3	Texas.....	29
Kansas.....	12	Utah.....	2
Louisiana.....	4	Vermont.....	4
Maine.....	16	Washington.....	3
Maryland.....	58	Wisconsin.....	4
Massachusetts.....	1		
Total.....	805		

tors and physicians located in the state and elsewhere gave the remainder.

These opportunities were of the type that would interest all practicing physicians. None were given for specialists only. The courses were both clinical and didactic or both. There were 74 courses offered devoted exclusively

to didactic instruction. The fees ranged from \$5 to \$200. The majority of the fees were less than \$50. In 42 instances no fee was charged.

The increasing interest in courses of less than five days' duration was evidenced in that there were 128 more opportunities for this type of training than given in the comparable previous period. The attendance exceeded that of the session 1951-1952 by 1,998. The total attendance reported for 295 of the 324 courses offered was 9,452. Scheduled courses in this group that were canceled numbered 43.

TABLE 37.—*Postgraduate Courses of Five Days or Longer, 1952-1953*

Subject	No. of Courses Given
Allergy	7
Anatomy	40
Arthritis	3
Anesthesiology	22
Bacteriology	13
Basic Sciences	12
Biochemistry	1
Cardiovascular Disease	28
Dermatology and Syphilology	9
Diabetes	4
Electrocardiography	22
Electroencephalography	3
Endocrinology	1
Endoscopy	9
Fractures	4
Gastroenterology	12
Hematology	11
Histology	2
Industrial Medicine	6
Internal Medicine	49
Malignant Disease	7
Medicine, General	53
Neurology and Psychiatry	31
Obstetrics and Gynecology	48
Ophthalmology	15
Orthopedic Surgery	14
Orthopedics	8
Otolaryngology	35
Otology	11
Parasitology	6
Pathology	47
Pediatrics	41
Physical Medicine	7
Physiology	28
Poliomyelitis	2
Proctology	11
Public Health	19
Pulmonary Disease	17
Radiology	51
Surgery	79
Thoracic Surgery	1
Urology	14
Venereal Disease	2
Total	805

Courses of Five Days' Duration or Longer.—In centers where ample clinical facilities were available 805 postgraduate courses of five days' duration or longer were offered in 30 states and the District of Columbia during 1952-1953. The states that provided these opportunities and the number of courses that were given in each state are recorded in table 36.

The 805 programs varied from refresher courses of five or more days to intensive courses extending over several months. Courses in 43 subjects were given. Table 37 lists the subjects covered. For this type of training the total attendance was 23,793.

In 115 instances courses of five days' duration were offered. There were 374 courses given that were of more

than five days' duration but less than one month, 166 courses ranged from one to three months, and in 150 instances the courses varied in length from four months to three years. Included among the 150 courses were 26 eight month courses, 14 covering 9 months, 35 one year

TABLE 38.—*Clinical Conferences, Graduate Assemblies, Study and Circuit Courses and Seminars, 1952-1953*

State Where Given	No. of Courses	State Where Given	No. of Courses
Alabama	2	Montana	3
California	17	Nebraska	1
Colorado	5	New York	129
Connecticut	2	North Carolina	5
Delaware	2	Ohio	6
District of Columbia	2	Oklahoma	9
Illinois	9	Oregon	14
Indiana	1	Pennsylvania	1
Iowa	1	South Carolina	1
Kansas	3	Tennessee	5
Louisiana	1	Texas	7
Maryland	3	Vermont	6
Massachusetts	8	Virginia	1
Minnesota	1	Washington	1
Mississippi	2	Wisconsin	1
Missouri	4		
Total			258

in length, and one of three years. In 36 instances courses were arranged to suit the convenience and the time of the applicant.

Medical school facilities were used for 658 courses, hospitals for 46, and clinics for 6. In many instances two or all three of these sources were used in presenting an

TABLE 39.—*Clinical Conferences, Graduate Assemblies, Study and Circuit Courses and Seminars, 1952-1953*

Subject	No. of Courses Given
Allergy	2
Anesthesiology	1
Cardiovascular Disease	17
Dermatology and Syphilology	3
Diabetes	3
Electrocardiography	4
Endocrinology	3
Fractures	1
Gastroenterology	5
Geriatrics	1
Hematology	12
Internal Medicine	3
Malignant Disease	7
Medicine, General	55
Neurology and Psychiatry	42
Nuclear Science	1
Obstetrics and Gynecology	5
Ophthalmology	35
Orthopedics	2
Otolaryngology	14
Otology	1
Pediatrics	5
Physical Medicine	1
Poliomyelitis	1
Pulmonary Disease	6
Radiology	3
Surgery	6
Urology	6
Venereal Disease	8
Total	253

individual course. Hotel and other facilities were used for 30 courses. For 65 courses, the type of facility used was not specified. Instruction was both didactic and clinical for 452 courses, didactic only for 202, clinical only for 41, laboratory and didactic for 30, and unspecified in 80.

The faculties of medical schools served as instructors in 560 courses. Additional instructors were specialists in their field, chosen mainly from physicians residing within the state in which the course was given but including as well physicians from outside the state. Courses were offered during every month from July, 1952, through June, 1953. In 170 instances they were arranged to suit the convenience of the physician students. Forty-three courses were offered continuously and nine quarterly. There were 43 courses whose enrollment was limited to specialists only. Fees ranged from \$5 to \$1,040. For 54 courses no fee was charged.

Forty-nine medical schools sponsored this type of training during 1952-1953. Other agencies participating included hospitals, special societies, state and county medical societies, health departments, graduate schools of medicine, and the government agencies.

Attendance for the 805 courses totaled 23,793. By comparison with the previous years, there was a marked decrease in the number of courses offered while the attendance exceeded the previous year by 6,282. Scheduled courses that were cancelled totalled 198.

as compared with the previous year showed a decrease of 9,607. Two programs were canceled.

SUMMARY

Some form of continuation study for practicing physicians was reported as being provided during 1952-1953 in all but 10 states. Table 40 summarizes for the three groups the number of courses given, the number for which attendance was reported, and the total attendance, together with comparable figures for seven previous years. While the total number of programs offered during 1952-1953 decreased by 487 as compared with the previous year, the total attendance showed only a decrease of 1,327. The figures reported show that the attendance at many of the individual courses increased in numbers. Further analysis will show that the decrease occurred only in the group of opportunities for training in courses of five or more days' duration.

A study of table 40 reveals some interesting trends. The number of courses offered rose rapidly following World War II, reaching a peak of 1,800 in the 1947-1948 period. A sharp and continuing decline then occurred, swinging upward again in 1950-1951. In 1951-1952 the

TABLE 40.—Postgraduate Courses Offered and Attendance, 1945-1953

	Less Than Five Days' Duration			Five or More Days			Clinical Conferences, Graduate Assemblies, Study and Circuit Courses and Seminars			Total		
	Total Courses	Number Reporting Attendance	Attendance	Total Courses	Number Reporting Attendance	Attendance	Total Courses	Number Reporting Attendance	Attendance	Total Courses	Number Reporting Attendance	Attendance
1945-1946.....	154	128	4,140	1,070	1,043	19,991	52	52	21,824	1,276	1,223	45,955
1946-1947.....	239	205	16,274	1,291	1,137	23,062	21	21	20,475	1,551	1,363	59,811
1947-1948.....	496	478	31,569	1,279	1,183	24,878	25	25	26,356	1,800	1,686	82,803
1948-1949.....	304	262	16,821	1,074	984	28,507	67	67	38,058	1,445	1,313	83,386
1949-1950.....	161	161	10,523	1,080	1,080	24,087	129	129	40,708	1,370	1,370	75,318
1950-1951.....	420	420	7,438	1,067	1,047	14,890	79	74	23,855	1,566	1,541	46,183
1951-1952.....	206	204	7,454	1,543	1,442	17,511	120	119	40,970	1,869	1,765	65,935
1952-1953.....	324	295	9,452	805	805	23,793	253	241	31,363	1,382	1,341	64,608
Totals.....	2,304	2,153	103,671	9,209	8,721	176,719	746	728	243,609	12,259	11,602	523,999

Clinical Conferences, Graduate Assemblies, Study and Circuit Courses, and Seminars.—In 30 states and the District of Columbia, 253 clinical conferences, graduate assemblies, study and circuit courses and seminars were held during 1952-1953. The states that presented this type of training are listed in table 38. Twenty-nine subjects were covered; table 39 lists the subjects and the number of programs offered. Contributing agencies were speakers' bureaus, medical schools, state and county medical societies, state health departments, and special societies. This type of training varied in length from one day sessions to two weeks for conferences, assemblies, seminars, and study courses. In four states, circuit courses were held. The facilities of hospitals, clinics, medical schools, and hotels were used. Instruction was both didactic and clinical. Instructors included members of medical school faculties and physicians practicing in the state in which the training was given as well as from out of state. These opportunities were offered in every month. The fees ranged from \$5 to \$250. In 27 instances no fee was charged. The attendance numbered 31,363. In this type of training there was an increase of 122 in the number of opportunities provided, but the total attendance

trend was again upward, reaching the all time high in a seven year period. The figures for 1952-1953 were again downward and appear to show a greater interest in the shorter opportunities provided as contrasted with the more intensive courses.

A similar review of the attendance figures shows a parallel trend in the immediate postwar years, but with a marked drop occurring in the 1950-1951 records even after the number of courses had again started to rise. The number of courses offered in 1952-1953 was the lowest figure in the past five years, although the attendance record does not reveal a comparable decline.

Medical education is a continuous process, and it is the responsibility of every physician to keep abreast of advances in medicine. Data presented in this section is evidence that the physicians of the country recognize this responsibility. Institutions and agencies are continuing to attempt to provide opportunities of current interest. The popularity of programs developed is revealed by the attendance records. However, the variables in type, length and geographical location is another important factor to be given consideration by those currently giving courses or others planning programs.

APPROVED MEDICAL SCHOOLS IN THE UNITED STATES

ALABAMA

Birmingham

Medical College of Alabama, 620 S. 20th St., Zone 5.—Established in 1943 as a division of the University of Alabama. Located in Birmingham in 1944. In 1945 assumed title to Jefferson Hospital and Hillman Hospital, Birmingham. The Medical College of Alabama cares for all indigent patients of the county, maintenance of which is paid to the university on a per diem basis by the county. In 1943 the appropriation included one million dollars for the building of a new medical school which was completed and occupied in the Fall of 1951. With the increased facilities of this new building, the entering class of 1951 was increased to 80 students. First instruction in the Medical College of Alabama started June 4, 1945, with a junior class and this class was graduated in October 1946. On Oct. 8, 1945, the School of the Basic Medical Sciences on the University Campus, established in 1920, and its faculty, were absorbed into the new Medical College of Alabama. The medical college is coeducational. Minimum requirements are three years of college work. Tuition is as follows: for legal residents of Alabama \$400 per academic year plus incidental fees of \$45. Nonresidents of the state are charged an additional \$250 each session. The registration for the 1952-1953 session was 271, graduates 54. The last session began for all classes on Sept. 19, 1952. The session ended for all classes on May 30, 1953. The next session for all four classes will begin Sept. 17, 1953, and will end on May 29, 1954. The dean is James J. Durrett, M.D.

ARKANSAS

Little Rock

University of Arkansas School of Medicine, 1209 McAlmont Street.—Organized in 1879 as the Medical Department of Arkansas Industrial University. Present title in 1899. In 1911 the College of Physicians and Surgeons united with it and it became an integral part of the University of Arkansas. The first class was graduated in 1880. Clinical teaching was suspended in 1918 but resumed in 1923. Coeducational since organization. The curriculum covers four sessions of nine months each. Entrance requirements are three years of collegiate work. The B.S. degree is conferred at the end of the second year. The fees for the four years for residents of Arkansas are \$380 a year; enrollment is restricted to residents of Arkansas. The registration for the 1952-1953 session was 324, graduates 78. The last session began Sept. 22, 1952, and ended June 15, 1953. The next session will begin Sept. 21, 1953 and will end June 14, 1954. The dean is Hayden C. Nicholson, M.D.

CALIFORNIA

Loma Linda—Los Angeles

College of Medical Evangelists, Loma Linda; Boyle and Michigan Ave., Los Angeles 33.—Organized in 1909. The first class graduated in 1914. The laboratory departments are at Loma Linda; the clinical departments at Los Angeles. Coeducational since organization. Three years of college work are required for admission. The freshman, sophomore, and junior years consist of nine month academic sessions and the senior year will have in addition to the nine month session a four weeks' clinical clerkship during the summer between the junior and senior years. A 12 month internship in an approved hospital is required. The yearly tuitions, including fees, are respectively, \$1,292.00, \$1,280.50, \$1,286.25, \$1,303.75. The registration for 1952-1953 was 377; graduates 1953-A, 98; 1953-B, 93. The last session for freshman and sophomore students began on Aug. 31, 1952, and ended June 5, 1953, respectively. The junior session began on Sept. 7, 1952, and ended June 6, 1953. The senior session began June 8, 1952, and was completed June 7, 1953. The next session for freshman and sophomore students will begin Aug. 30, 1953, junior students Sept. 13, 1953, and senior students began June 8, 1953, and will end June 4, 1954, for the freshman and sophomore classes, June 5, 1954 for junior students, and June 6, 1954 for seniors. The president is Walter E. Macpherson, M.D., Los Angeles. The dean is Harold Shryock, M.D., Loma Linda.

Los Angeles

University of Southern California School of Medicine, 3518 University Ave., Zone 7.—Organized in 1895 as the University of Southern California College of Medicine. First class graduated in 1899. In 1908 it became the Los Angeles Medical Department of the University of California. In 1909 the College of Physicians and Surgeons, established in 1904, became the Medical Department of the University of Southern California. Its activities were suspended in 1920; reorganized in May 1928, under present title. Entrance requirements are three years of college work. An internship is required for graduation. Coeducational since organization. Annual fees amount to approximately \$865. The registration for 1951-1952 was 275; graduates, 67. The last session began Sept. 15, 1952, and ended June 13, 1953. The next session will begin Sept. 21, 1953, and will end June 12, 1954. The dean is Gordon E. Goodhart, M.D.

San Francisco

University of California School of Medicine, Medical Center, San Francisco 22.—Organized in 1864 as the Toland Medical College. The first class graduated in 1864. In 1873 it became the Medical Department of the University of California. In 1909, by legislative enactment, the College of Medicine of the University of Southern California at Los Angeles became a clinical department but was changed to a graduate school in 1914. In 1915 the Hahnemann Medical College of the Pacific was merged

and elective chairs in homopathic materia medica and therapeutics were provided. Coeducational since organization. Three years of collegiate work are required for admission. The work of the first year is given at Berkeley and that of the last three years at San Francisco. The medical course consists of four academic years, each containing two semesters of sixteen weeks each. The fees are \$320 per academic year. Nonresidents are charged \$250 additional each year. The registration for the 1952-1953 session was 301; graduates 72. The last session began Sept. 22, 1952 and ended June 18, 1953. The next class will begin Sept. 14, 1953 and will end June 17, 1954. The dean is Francis Scott Smyth, M.D.

Stanford—San Francisco

Stanford University School of Medicine, Stanford, 2398 Sacramento Street, San Francisco.—The main buildings are in San Francisco. The laboratories of anatomy, bacteriology and experimental pathology, chemistry and physiology are located on the campus at Stanford, which is thirty miles southwest of San Francisco adjoining the city of Palo Alto. The post office is Stanford. Organized in 1908, when by agreement the interests of Cooper Medical College were taken over. The first class graduated in 1913. Coeducational since organization. Three years of collegiate work are required for admission. The quarter plan is in operation. An internship is a requirement for graduation. The average fee for each of the four years is \$780. The registration for 1952-1953 was 243, graduates 62. The last session for all classes began Sept. 29, 1952, and ended June 10, 1953. The next session will begin Sept. 28, 1953, and will end June 9, 1954. The acting dean is Windsor Cooper Cutting, M.D.

COLORADO

Denver

University of Colorado School of Medicine, 4200 East Ninth Avenue., Zone 7.—Organized in 1883. Classes were graduated in 1885 and in all subsequent years except 1898 and 1899. Denver and Gross College of Medicine were merged Jan. 1, 1911. Coeducational since organization. The entrance requirements are three years of collegiate work. The fees average \$525 per academic year. Nonresidents are charged \$2,130 additional each year. The registration for 1952-1953 was 313; graduates 73. The last session began Sept. 22, 1952, and ended June 6, 1953. The next session will begin Sept. 18, 1953, and will end June 5, 1954. The Director of the Medical Center is Francis R. Manlove, M.D.; the dean is Robert C. Lewis, Ph.D.

CONNECTICUT

New Haven

Yale University School of Medicine, 333 Cedar Street, Zone 11.—Initial organization of the School of Medicine was completed in 1812 following passage of a bill by the Connecticut General Assembly in 1810 granting a charter for "The Medical Institution of Yale College," to be conducted under joint supervision of the College and the Connecticut State Medical Society. Formally opened in 1913; first degrees conferred 1814. In 1884, with the approval of the Medical Society, the original charter was amended to place the school definitely in the control of the College as the Medical School of Yale College. The name Yale College was changed to Yale University in 1887 and the name of the Medical School was automatically changed. The present name was adopted in 1918. Coeducational since 1916. The requirements for admission are three years of college work. The fees average \$829 per academic year. The registration for 1952-1953 was 290; graduates 64. The last session began Sept. 24, 1952 and ended May 30, 1953. The next session will commence Sept. 23, 1953 and will end May 29, 1954. The dean is Vernon W. Lippard, M.D.

DISTRICT OF COLUMBIA

Washington

Georgetown University School of Medicine, 3900 Reservoir Road, N.W., Zone 7.—Organized in 1851. First class graduated in 1852. The degree of Bachelor of Arts or Bachelor of Science or its equivalent from an approved college of arts and sciences is required for admission of non-veterans, but veterans may be admitted with a minimum of 90 semester hours of credit. The fees average \$965 per academic year. Registration for 1952-1953 was 441; graduates 95. The last session for freshmen started Sept. 15, 1952, and ended May 23, 1953; the sophomore class started Sept. 15, 1952, and ended May 23, 1953; the junior class started Aug. 27, 1952, and ended May 15, 1953, and the senior class started on May 26, 1952, and ended on May 23, 1953. The date of graduation was June 8, 1953. The next session for freshmen and sophomores will begin Sept. 14, 1953, and end May 22, 1954; the juniors will be in session from Aug. 26, 1953, to May 14, 1954; the senior session began May 25, 1953, and will end May 22, 1954. The date of graduation will be June 7, 1954. The dean is Francis M. Forster, M.D. The regent and dean of students is Rev. Thomas J. O'Donnell, S.J.

George Washington University School of Medicine, 1335 H Street, N.W., Zone 5.—Organized in 1825 as the Medical Department of Columbian College. Also authorized to use the name "National Medical College." Classes were graduated in 1826 and in all subsequent years except in 1834-1838 and 1861-1863 inclusive. The original title was changed to Medical Department of Columbian University in 1873. In 1903 it absorbed the National University Medical Department. In 1904 by an Act of Congress the title of George Washington University was granted to the institution. Coeducational since 1884. Three years of college work are required for admission. The tuition is \$850 per academic year. Registration for 1952-1953 was 347; graduates 92. The last session began Sept.

15, 1952, and ended May 27, 1953. The next session will begin Sept. 21, 1953, and will end on June 9, 1954. The dean is Walter A. Bloedorn, M.D.

Howard University College of Medicine, 520 W Street, N.W., Zone 1.—Chartered in 1867. Organized in 1869. The first class was graduated in 1871. Coeducational since organization. Negro students compose a majority of those in attendance. The minimum requirements are four years of collegiate work, but practically the bachelor's degree. The course covers four years of 33 weeks each. The fees are respectively: \$526.75; \$516.75; \$486.75; \$502.25. The registration for 1952-1953 was 289; graduates 67. The last session began Sept. 22, 1952, and ended June 5, 1953. The next session will begin Sept. 21, 1953, and will end June 4, 1954. The dean is Joseph L. Johnson, M.D.

GEORGIA

Atlanta

Emory University School of Medicine, 36 Butler St.—Organized in 1854 as the Atlanta Medical College. Classes graduated 1855 to 1861, when it suspended. Reorganized in 1865. A class graduated in 1865 and each subsequent year except 1874. In 1898 it merged with the Southern Medical College (organized in 1878) taking the name of Atlanta College of Physicians and Surgeons. In 1913 it merged with Atlanta School of Medicine (organized in 1905), reassuming the name of Atlanta Medical College. Became the School of Medicine of Emory University in 1915. Three years of collegiate work are required for admission. The course of study is four academic years; 36 weeks each in the first and second year; 40 weeks each in the third and fourth years. The fees for each of the four academic years are \$800. The registration for 1952-1953 was 286; graduates 73. The last session for freshmen and sophomores began Aug. 28 and Sept. 2, 1952, and ended June 6, 1953. The last session for juniors and seniors began Aug. 4, 1952, and ended June 6, 1953. The next session for freshmen and sophomores will begin Aug. 27 and Sept. 1, 1953, and will end June 5, 1954. The next session for junior and senior classes will begin Aug. 3, 1953, and will end June 5, 1954. The dean is Richard Hugh Wood, M.D.

Augusta

Medical College of Georgia, University Place.—Organized in 1828 as the Medical Academy of Georgia, the name being changed to the Medical College of Georgia in 1829. After 1873 it was known as the Medical Department of the University of Georgia. On July 1, 1933, the name was changed to the University of Georgia School of Medicine. On Jan. 18, 1950 it became the Medical College of Georgia. Property transferred to the university in 1911. Classes were graduated in 1833 and all subsequent years except 1862 and 1863. Coeducation was begun in 1920. Three years of college work are required for admission. Fees for 1953-1954, \$390.00 per academic year for residents of Georgia, non-residents, \$690.00. Only bona fide residents of Georgia admitted (with exception of A. S. T. and V-12 Program students during World War II). The registration for the 1952-1953 session was 314; graduates 81. The 1953-1954 session for the fourth year class will begin Sept. 10, 1953, and end June 5, 1954; the first, second and third year classes will begin Sept. 17, 1953, and end June 5, 1954. The president is Edgar R. Pund, M.D.

ILLINOIS

Chicago

Chicago Medical School, 710 South Wolcott Ave.—Founded in 1912 as the Chicago Hospital College of Medicine. In 1919 the name of the institution was changed to the Chicago Medical School. The school moved from its former location to its present site in the Medical Center in 1930. The Chicago Medical School is a nonsectarian, coeducational institution. It is chartered in the State of Illinois as a nonprofit institution. A collegiate degree is required for admission. A hospital internship is a requirement for graduation. The yearly tuition and fees are, respectively, \$664, \$872, \$837, \$649. The registration for 1952-1953 was 280; graduates 63. The last session for freshmen began Sept. 29, 1952, and for sophomores June 30, 1952, and ended June 20, 1953; the junior and senior session began Sept. 29, 1952, and ended for seniors June 27, 1953. The junior class will end Sept. 26, 1953. The next session for freshmen, juniors and seniors will begin Oct. 5, 1953, and will end June 20, 1954, Sept. 26, 1954, and June 26, 1954, respectively. The sophomore class began July 6, 1953, and will end June 25, 1954. The president is John J. Sheinin, M.D. The dean of faculty is F. J. Mullin, Ph.D.

Northwestern University Medical School, 303 East Chicago Avenue, Zone 11.—Organized in 1859 as the Medical Department of Lind University. First class graduated in 1860. In 1864 it became independent as the Chicago Medical College. It united with Northwestern University in 1869 but retained the name of Chicago Medical College until 1891, when the present title was taken. Became an integral part of Northwestern University in 1905. Coeducational since 1926. The requirement for admission is three years of collegiate work. The B.S. in medicine degree may be conferred before the end of the senior year. The total fees are \$830 each year. The registration for 1952-1953 was 522; graduates 128. The last session began Oct. 1, 1952 for freshmen, sophomores and juniors and ended June 13, 1953. The senior session began June 18, 1952, and ended June 15, 1953. The next session will begin Sept. 30, 1953, for freshmen, sophomores and juniors and will end June 12, 1954. The senior session began June 17, 1953, and will end June 14, 1954. The dean is Richard H. Young, M.D.

Stritch School of Medicine of Loyola University, 706 South Wolcott Avenue, Zone 12.—Organized in 1915 by acquisition of Bennett Medical College, which had been organized in 1869. Facilities enlarged by the acquisition of Chicago College of Medicine and Surgery. Faculties in basic sciences put on full time basis and assumed name of Loyola University School of Medicine in 1917. Operated as an organic part of Loyola University. Name officially changed to Stritch School of Medicine of

Loyola University on April 15, 1948. Coeducational since organization. Three years of collegiate work are required for admission. The fees are \$675 a year. The registration for 1952-1953 was 334; graduates 80. The last session for freshmen, sophomores and juniors began Sept. 29, 1952, and ended June 20, 1953; the session for seniors began Sept. 8, 1952, and ended June 6, 1953. The next session will begin Sept. 28, 1953, and will end June 19, 1954, for the first two classes and will begin Sept. 8, 1953, and end June 5, 1954, for juniors, May 29, 1954 for the seniors. The dean is John F. Sheehan, M.D.

University of Chicago, The School of Medicine, 58th Street and Ellis Avenue, Zone 37.—Organized in 1924, as a part of the Ogden Graduate School of Science of the University of Chicago. In 1932, when the University of Chicago reorganized its departments, the medical departments were included in the Division of Biological Sciences. The work of the first two years in the medical courses has been given on the University Quadrangles since 1899; but the last two years were offered only at Rush Medical College, which was affiliated with the university until 1927 when actual work in the clinical departments on the campus began. After that time candidates for the degree of Doctor of Medicine could take the work of the first two years on the campus and the work of the third and fourth years either on the campus or at the Rush Medical College. In June 1940 Rush Medical College became affiliated with the University of Illinois College of Medicine. All undergraduate instruction is now given only on the campus of the University of Chicago. A special function of the school is to train people for making contributions to the advancement of medical science. The requirements for admission are three years of collegiate work. The curriculum covers twelve quarters of work. The tuition fee averages \$904. The registration for 1952-1953 was 281; graduates 67. Quarters begin in March, June, September and December of each year. The dean of the Division of the Biological Sciences is Lowell T. Coggshall, M.D. All correspondence pertaining to student affairs, including admission, should be addressed to Joseph J. Ceithaml, Ph.D., dean of students.

University of Illinois College of Medicine, 1853 West Polk Street, Zone 12.—Organized in 1882 as the College of Physicians and Surgeons. The first class graduated in 1883. It became the Medical Department of the University of Illinois by affiliation in 1897. Relationship with the university was canceled in June 1912, and was restored in March 1913, when the present title was assumed. The staff of the Rush Medical College was incorporated in the University of Illinois College of Medicine in 1942 and at the same time Presbyterian Hospital, Chicago, became a teaching unit of the university. Coeducational since 1898. Three years of collegiate work are required for admission. The B.S. in medicine degree may be conferred at the end of the second year. The fees for residents of Illinois average \$313 per academic year; nonresidents pay an additional fee of \$300. The registration for the 1952-1953 session was 678; graduates 174. The last session began Sept. 29, 1952, and ended June 27, 1953. The next session will begin Sept. 28, 1953, and will end June 26, 1954. The acting dean is Roger A. Harvey M.D.

INDIANA

Bloomington-Indianapolis

Indiana University School of Medicine, Bloomington; 1040 West Michigan Street, Indianapolis 7.—Organized in 1903 but did not give all the work of the first two years of the medical course until 1905. In 1907 by union with the State College of Physicians and Surgeons, the complete course in medicine was offered. In 1908 the Indiana Medical College, which was formed in 1905 by the merger of the Medical College of Indiana (organized in 1878), the Central College of Physicians and Surgeons (organized in 1879), and the Fort Wayne College of Medicine (organized in 1879) merged into it. The first class was graduated in 1908. Coeducational since organization. Three years of college work are required for admission. The work of the first two semesters is given at Bloomington; the remainder of the work at Indianapolis. Regular fee for two semesters of work is \$300 for residents of Indiana and \$560 for nonresidents. The registration for the 1952-1953 session was 568; graduates 134. The last session began Sept. 22, 1952, and ended June 9, 1953. The next session will begin Sept. 21, 1953, and will end June 8, 1954. The dean is John D. Van Nuys, M.D., Indianapolis.

IOWA

Iowa City

State University of Iowa College of Medicine, University Campus.—Organized in 1869. First session began in 1870. First class graduated in 1871. Absorbed Drake University College of Medicine in 1913. Coeducational since 1870. Three years of collegiate work are required for admission. The B.A. degree in the combined course of liberal arts and medicine is conferred. The tuition fee is \$256 each year for residents of Iowa and \$566 for nonresidents. The registration for 1952-1953 was 453; graduates 103. The last session began Sept. 25, 1952, and ended June 12, 1953. The next session will begin Sept. 24, 1953, and will end on June 11, 1954. The dean is Norman B. Nelson, M.D.

KANSAS

Lawrence-Kansas City

University of Kansas School of Medicine, Lawrence; 39th and Rainbow Boulevard, Kansas City.—Organized in 1880. It offered only the first two years of the medical course until 1905, when it merged with the Kansas City (Mo.) Medical College, founded in 1869, the College of Physicians and Surgeons, founded in 1894, and the Medicochirurgical College, founded in 1897. Absorbed Kansas Medical College of Topeka in 1913. The first class graduated in 1906. At present the first year is given on the University campus at Lawrence while the remaining three years are given at the Medical Center in Kansas City, Kansas. Coeducational since 1880. The requirement for admission is three years of collegiate work, four years preferred. The fees are \$475 per year; the nonresident fees are \$925

per year. The registration for 1952-1953 was 450; graduates 103. The last session began June 3, 1952, and ended May 30, 1953. The next freshman class will begin Sept. 9, 1953. The sophomore class of 1953 will begin its work on Sept. 17, 1953, at Kansas City. The junior and senior classes began June 9, 1953, and will end May 29, 1954. Three-fourths of each junior and senior class is in school each quarter of the school year while one-fourth is on vacation (juniors) or preceptorship (seniors). The dean is W. Clarke Wescoe M.D., Kansas City.

KENTUCKY

Louisville

University of Louisville School of Medicine, 101 West Chestnut Street, Zone 2.—Organized in 1837 as Louisville Medical Institute. The first class graduated in 1838, and a class graduated each subsequent year except 1863. In 1846 the name was changed to University of Louisville Medical Department. In 1907 it absorbed the Kentucky University Medical Department; in 1908, the Louisville Medical College, the Hospital College of Medicine and the Kentucky School of Medicine. In 1922 its name was changed to the University of Louisville School of Medicine. Coeducational since organization; became non-segregational in 1951. Three years of collegiate work are the minimum requirements for admission. Tuition is \$800 for residents of Kentucky and \$1,200 for nonresidents, per school year. These figures include special fees excepting graduation fee of \$10. The registration for 1952-1953 was 385; graduates 100. (Administratively, the school year is divided into two semesters and students are accepted for matriculation only at the beginning of the first semester. Academically, the senior and junior years are on a trimester basis, the sophomore year is divided into four unequal periods, and the freshman year into three unequal periods.) The last session began Sept. 15, 1952, and ended June 6, 1953. The next session begins on Sept. 14, 1953, and will end on June 5, 1954. The dean is J. Murray Kinsman, M.D.

LOUISIANA

New Orleans

Louisiana State University School of Medicine, 1542 Tulane Avenue, Zone 12.—Organized January 1931 as Louisiana State University Medical Center. Present title in 1939. Coeducational. First session began in October 1931 with students of first and third years. Course covers four sessions of not less than 36 weeks each. A minimum of three years' collegiate work is required for admission. Total fees, \$120 each year for residents of Louisiana; additional tuition of \$400 each year for nonresidents. The registration for 1952-1953 was 457; graduates 105. The last session began Sept. 2, 1952 and ended June 1, 1953. The next session will begin Aug. 31, 1953 and end May 29, 1954. The dean is William W. Frye, M.D.

Tulane University of Louisiana School of Medicine, 1430 Tulane Avenue, Zone 13.—Organized in 1834 as the Medical College of Louisiana. Classes were graduated in 1836 and in all subsequent years except 1863-1865, inclusive. It became the Medical Department of the Tulane University of Louisiana in 1884. Present title in 1913. Coeducational since 1915. A minimum of three years of collegiate work is required for admission. Total fees average \$800 per academic year. The registration for the 1952-1953 session was 514; graduates 128. The last session began on Sept. 15, 1952, and ended on June 2, 1953. The next session will begin Sept. 14, 1953, and will end June 1, 1954. The dean is M. E. Lapham, M.D.

MARYLAND

Baltimore

Johns Hopkins University School of Medicine, 710 North Washington Street.—The nucleus of a medical faculty was constituted in 1883. Systematic postgraduate instruction in pathology and bacteriology was begun in 1886. School was fully organized and opened in 1893. The first class graduated in 1897. Coeducational since organization. The requirement for admission is a college degree. The course extends over four years of eight and one-half months each. The fees averaged \$835 per academic year. The registration for 1952-1953 was 294; graduates 76. The last session began on Sept. 29, 1952, and ended June 9, 1953. The next session will begin Sept. 28, 1953, and will end June 8, 1954. The dean is Philip Bard, Ph.D.

University of Maryland School of Medicine and College of Physicians and Surgeons, 522 W. Lombard Street, Zone 1.—Organized in 1807 as the College of Medicine of Maryland. The first class graduated in 1810. In 1812 it became the University of Maryland School of Medicine; Baltimore Medical College was merged with it in 1913. In 1915 the College of Physicians and Surgeons of Baltimore was merged and the present name assumed. Coeducational since 1918. Three years of college work are required for admission. The tuition fees average \$533 for residents of the state; for nonresidents \$250 additional. The registration for 1952-1953 was 395; graduates 92. The last session began Sept. 18, 1952, and ended June 6, 1953. The next session will begin Sept. 17, 1953, and will end June 5, 1954. The dean is H. Boyd Wylie, M.D.

MASSACHUSETTS

Boston

Boston University School of Medicine, 80 East Concord Street, Zone 18.—Organized in 1873 as a homeopathic institution. In 1874, the New England Female Medical College, founded in 1848, was merged into it.

The first class was graduated in 1874. Became nonsectarian in 1918. Coeducational since organization. Applicants are required to present a minimum of three years of premedical work. Total fees averaged \$871 per year. The registration for 1952-1953 was 278; graduates 72. The last session for freshmen, sophomores, and juniors began Sept. 15, 1952, and ended May 29, 1953. The last senior class began June 9, 1952, and ended June 8, 1953. The present senior class began June 15, 1953, and will end June 7, 1954. All other classes will be enrolled Sept. 14, 1953, and the session will end May 29, 1954. The dean is James M. Faulkner, M.D.

Harvard Medical School, 25 Shattuck Street, Zone 15.—Organized in 1782. The first class graduated in 1788. At least two years of collegiate work are required for admission. The fees average \$850. The registration for 1952-1953 was 529; graduates 148. The last session began Sept. 22, 1952, and ended on June 11, 1953. The next session for freshmen, sophomores and juniors will begin Sept. 28, 1953, and will end June 17, 1954. The senior class began on June 8, 1953, and will end June 17, 1954. The dean is George Packer Berry, M.D.

Tufts College Medical School, 136 Harrison Avenue, Zone 11.—Organized in 1893 as the Medical Department of Tufts College. The first class graduated in 1894. Coeducational since 1894. A bachelor's degree is required for admission. Enrollment is generally limited to residents of the New England States. The course covers four years. Total fees for each of the four years, respectively, \$863, \$858, \$858, \$868. The registration for 1952-1953 was 438; graduates 97. The last session for freshmen, sophomores and juniors began Sept. 24, 1952; for seniors June 9, 1952, and all classes ended June 14, 1953. The present session began for the seniors on June 15, 1953, and for the other classes will begin Sept. 23, 1953, and will end June 13, 1954. The dean is Joseph M. Hayman, Jr., M.D.

MICHIGAN

Ann Arbor

University of Michigan Medical School.—Organized in 1850 as the University of Michigan Department of Medicine and Surgery. The first class graduated in 1851. Present title assumed 1915. Coeducational since 1870. The entrance requirements are three years of collegiate work. The fees average \$400 per academic year; nonresidents \$700 a year. The registration for 1952-1953 was 683; graduates 137. The last session began Sept. 22, 1952, and ended June 13, 1953. The next session will begin Sept. 21, 1953, and will end June 12, 1954. The dean is A. C. Furstenberg, M.D.

Detroit

Wayne University College of Medicine, 1512 St. Antoine Street, Zone 26.—Organized as the Detroit College of Medicine in 1885 by consolidation of the Detroit Medical College (organized in 1868) and the Michigan College of Medicine (organized in 1879). Reorganized with the title of Detroit College of Medicine and Surgery in 1913. The first class graduated in 1869. In 1918 it became a municipal institution under the control of the Detroit Board of Education. In 1934 the name was changed by action of the Detroit Board of Education to Wayne University College of Medicine, as a part of the program of consolidation of the Detroit city colleges into a university system. Coeducational since 1917. Entrance requirement is three years in an accredited college or university. Until further notice, enrollment is limited to residents of the State of Michigan. The fees average \$537 for the school year. The registration for 1952-1953 was 268; graduates 59. The last session began Sept. 15, 1952, and ended June 13, 1952. The next session will begin Sept. 14, 1953, and will end June 12, 1954. The dean is Gordon H. Scott, Ph.D.

MINNESOTA

Minneapolis

University of Minnesota Medical School, Zone 14.—Organized in 1883 as the University of Minnesota College of Medicine and Surgery and reorganized in 1888 by absorption of the St. Paul Medical College and Minnesota Hospital College. The first class graduated in 1889. In 1908 the Minneapolis College of Physicians and Surgeons, organized in 1883, was merged. In 1909 the Homeopathic College of Medicine and Surgery was merged. Present title in 1913. Coeducational since organization. The entrance requirements are three years of university work. Students are required to meet the requirements for a degree of B.S. or B.A. before receiving the degree of Doctor of Medicine (M.D.), which is granted at the end of the course. Total fees are \$352.05 per academic year for residents and \$679.55 for nonresidents. The registration for 1952-1953 was 499; graduates 232. The last session began Sept. 29, 1952, and ended July 18, 1953. The next session will begin Sept. 28, 1953, and will end July 17, 1954. The school year of the first three years consists of fall and winter quarters of approximately 11 weeks and a spring quarter of approximately 16 weeks; in the senior year the spring quarter is 11 weeks in length and graduation is in June. The dean of medical sciences is Harold S. Diehl, M.D.

MISSOURI

St. Louis

St. Louis University School of Medicine, 1402 South Grand Boulevard, Zone 4.—Organized in 1901 as the Marion-Sims Beaumont Medical College by union of Marion-Sims Medical College, organized in 1890, and Beaumont Hospital Medical College, organized in 1886. First class graduated in 1902. It became the School of Medicine of St. Louis University in 1903. Completion of three years of college study is the minimum ad-

mission requirement, but students presenting meritorious credits in excess of minimum are accepted by preference. The fees average \$896.25 per year. The registration for 1952-1953 was 499; graduates 116. The last session began Sept. 16, 1952, and ended June 1, 1953. The next session will begin Sept. 15, 1953, and will end June 1, 1954. The dean is James W. Colbert Jr., M.D.

Washington University School of Medicine, 660 S. Kingshighway, Zone 10.—Organized in 1842 as the Medical Department of St. Louis University. The first class graduated in 1843. In 1855 it was chartered as an independent institution under the name of St. Louis Medical College. In 1891 it became the Medical Department of Washington University. In 1899 it absorbed the Missouri Medical College. Coeducational since 1918. Three years of college work are required for admission. The fees average \$809. The registration for 1952-1953 was 364; graduates 95. The last session began on Sept. 15, 1952, and ended June 10, 1953. The next session will begin on Sept. 14, 1953, and will end on June 9, 1954. The dean is Robert A. Moore, M.D.

NEBRASKA

Omaha

Creighton University School of Medicine, 302 North 14th Street, Zone 2.—Organized in 1892 as the John A. Creighton Medical College. The first class graduated in 1893. Present title in 1921. Coeducational since organization. Three years of collegiate work are required for admission. The tuition fees average \$809 per academic year. The registration for 1952-1953 was 298; graduates 76. The last session began Sept. 16, 1952, and ended June 4, 1953. The next session will begin Sept. 14, 1953, and will end June 3, 1954. The dean is F. G. Gillick, M.D.

University of Nebraska College of Medicine, 42nd Street and Dewey Avenue, Zone 5.—Organized in 1881 as the Omaha Medical College. The first class graduated in 1882. It became the Medical Department of Omaha University in 1891. The University of Nebraska College of Medicine was established in Lincoln in 1883, and in 1902 the Omaha Medical College became a part of the University of Nebraska and has continued with the present title College of Medicine, University of Nebraska. The instruction of the first two years was given at Lincoln and of the last two years at Omaha until 1913, when the work of all four years was transferred to Omaha. Coeducational since 1882. Three years of college work are required for admission. The B.S. degree in medicine is conferred at the end of the second year. The fees average \$450 per academic year; non-residents are charged \$615. The registration for 1952-1953 was 344; graduates 87. The last session for seniors began June 30, 1952, and ended June 13, 1953. The last session for freshmen, sophomores and juniors began Sept. 24, 1952, and ended June 20, 1953. The present session for seniors began July 6, 1953, and will end June 12, 1954. The next session for freshmen, sophomores and juniors will begin Sept. 23, 1953, and will end June 19, 1954. The dean is James P. Tollman, M.D.

NEW YORK

Albany

Albany Medical College, 47 New Scotland Avenue, Zone 3.—Organized in 1838. The first class graduated in 1839. It became the Medical Department of Union University in 1873. In 1915 Union University assumed educational control. Coeducational since 1915. The requirement for admission is three years of college work. The fees average \$825 per academic year. The registration for 1952-1953 was 215; graduates 47. The last session began on Sept. 8, 1952, for freshmen, sophomores and juniors and ended on May 29, 1953, and for the seniors the last session began on June 1, 1952, and ended on May 29, 1953. The present senior class began on June 1, 1953. The next session for the freshmen and sophomores will begin on Sept. 14, 1953, and will end on May 29, 1954. The next session for the juniors will begin on Sept. 8, 1953, and will end on May 22, 1954. The dean is Harold C. Wiggers, Ph.D.

Buffalo

University of Buffalo School of Medicine, 24 High Street.—Organized in 1846. The first class graduated in 1847. It absorbed the Medical Department of Niagara University in 1898. Coeducational since organization. The minimum requirement for admission is four years of collegiate work including certain prescribed science subjects. The fees average \$828. The registration for 1952-1953 was 274; graduates 59. The last session began Sept. 22, 1952, and ended June 13, 1953, for freshmen, sophomores and juniors, and began on July 7, 1952, and ended June 6, 1953, for seniors. The next session will begin Sept. 21, 1953, and end June 12, 1954, for freshmen, sophomores and juniors, and will begin Aug. 31, 1953, and end June 5, 1954, for seniors. The dean is Stockton Kimball, M.D.

New York City

Columbia University College of Physicians and Surgeons, 630 West 168th Street, Zone 32.—The medical faculty of Columbia College, then known as King's College, was organized in 1767. Instruction was interrupted by the War of the Revolution. The faculty was reestablished in 1792 and merged in 1814 with the College of Physicians and Surgeons, which had received an independent charter in 1807. In 1860 the College of Physicians and Surgeons became the Medical Department of Columbia College. This merger became permanent by legislative enactment in 1891. Columbia College became Columbia University in 1896. The medical school has been coeducational since 1917. Three years of collegiate work are required for admission. Fees average \$900 per academic year. The registration for 1952-1953 was 463; graduates 116. The last session began

on June 9, 1952, for juniors and seniors, and ended on May 29, 1953. The last session for freshmen and sophomores began on Sept. 11, 1952, and ended May 29, 1953. The present session began on June 9, 1953, and June 1, 1953, for the juniors and seniors respectively, and will end May 29, 1954, and will begin on Sept. 10, 1953, for the freshmen and sophomores and will end May 29, 1954. The dean is Willard C. Rappleye, M.D.

Cornell University Medical College, 1300 York Avenue, Zone 21.—Organized in 1898. Coeducational since organization. First year teaching was given formerly to approximately one third of the class at Ithaca but in 1938 this division was discontinued and all instruction is now in New York City. All students matriculated must be graduates of approved colleges or scientific schools or seniors in *absentia* who will receive the bachelor degree from their college on successful completion of one or more years of the medical course. The fees average \$925 a year. The registration for 1952-1953 was 338; graduates 84. The last session began for senior students June 23, 1952, and ended June 10, 1953. The freshman, sophomore and junior classes began Sept. 11, 1952, and ended June 10, 1953. The present session for seniors began June 22, 1953, and will begin for the remaining three classes on Sept. 10, 1953, and all classes will end June 9, 1954. The acting dean is Dayton J. Edwards, M.D.

New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street.—Organized in 1858. Incorporated in 1860 as the Homeopathic Medical College of the State of New York. The title New York Homeopathic Medical College was assumed in 1869; the title New York Homeopathic Medical College and Hospital in 1887; the title New York Homeopathic Medical College and Flower Hospital in 1908; the title New York Medical College and Flower Hospital in 1936; the present title of New York Medical College, Flower and Fifth Avenue Hospitals, June 22, 1938. First class graduated in 1861. Coeducational since 1919. Three years of college work is the minimum requirement for admission, but a degree is preferred. The fees average \$886 per academic year. The registration for 1952-1953 was 493; graduates 121. The last session began Sept. 15, 1952, and ended June 3, 1953. The next session will begin Sept. 14, 1953, for first and second year students. Third year students began June 8, 1953, and fourth year students May 25, 1953. The president is J. A. W. Hetrick, M.D. The executive dean is Ralph E. Snyder, M.D.

New York University College of Medicine, 477 First Avenue, Zone 16.—This is the undergraduate medical college of the New York University-Bellevue Medical Center which comprises also the Post-Graduate Medical School and the University Hospital. The Medical Department of New York University (then called the University of the City of New York) was organized in 1841 as the University Medical College. In 1898 it united with the Bellevue Hospital Medical College, organized in 1861, under the name of University and Bellevue Hospital Medical College. In 1935 the name was changed to New York University College of Medicine. In 1947 the charter of the university and the statutes were amended establishing the New York University-Bellevue Medical Center, which includes the College of Medicine. Coeducational since 1919. Entrance requirements give preference to those who have completed not less than three full years in an approved college of arts and sciences. The fees average \$900 per academic session. The registration for 1952-1953 was 529; graduates 127. The last session began Sept. 15, 1952, and ended May 23, 1953, for freshmen, sophomores and seniors, and Sept. 12, 1953, for juniors. The next session begins Sept. 14, 1953, for freshmen, sophomores and juniors, and Sept. 21, 1953, for seniors, and will end May 22, 1954, for freshmen and sophomores, Sept. 11, 1954, for juniors, and May 29, 1954, for seniors. The dean is Currier McEwen, M.D.

State University of New York College of Medicine at New York City, 350 Henry Street, Zone 2.—Originally organized in 1858 as the collegiate department of The Long Island College Hospital. The first class was graduated in 1860 and the last class in 1930. Was chartered in 1930 as Long Island College of Medicine with the first class graduated in 1931 and the last in 1949. It was merged with the State University of New York on April 5, 1950, and the first class under the University was graduated in June 1950. Coeducational. Three years of collegiate work, including specified courses, are required for admission. The fees are \$715 per academic year. The registration for 1952-1953 was 590; graduates 140. The last session for seniors began Sept. 8, 1952, and ended May 29, 1953. The last session for juniors began on Sept. 15, 1952, and ended May 29, 1953. The last session for freshmen and sophomores began on Sept. 15, 1952, and ended June 6, 1953. The next session for freshmen, sophomores and juniors begins on Sept. 21, 1953, and will end on June 12, 1954. For seniors the next session will begin Sept. 14, 1953, and will end on June 5, 1954. The dean is Jean A. Curran, M.D.

Rochester

University of Rochester School of Medicine and Dentistry, 260 Crittendon Boulevard, Zone 20.—Organized in 1925 as the Medical Department of the University of Rochester. Coeducational since organization. Three years of collegiate work are required for admission. The fees are \$800 per academic year. The registration for 1952-1953 was 275; graduates 64. The last session began Sept. 15, 1952, and ended June 6, 1953. The next session will begin on Sept. 21, 1953, and will end on June 12, 1954. The dean is Donald G. Anderson, M.D.

Syracuse

State University of New York at Syracuse College of Medicine, 766 Irving Avenue, Zone 10.—Organized in 1872, when the Geneva Medical College, chartered in 1834, was removed to Syracuse, under the title "The College of Physicians and Surgeons of Syracuse University." Assumed

title Syracuse University College of Medicine in 1875, when a compulsory three year graded course was established. The College of Medicine was merged with the State University of New York on June 26, 1950, when the present title was assumed. The first class graduated in 1873 and a class graduated each subsequent year. In 1889 the amalgamation with the university was made complete. Course extended to four years in 1896. Coeducational since organization. Three years of collegiate work are required for admission. The fees average \$800 per academic year. The registration for 1952-1953 was 278; graduates 61. The last session began Sept. 8, 1952, and ended June 6, 1953. The next session will begin Sept. 14, 1953, and end June 12, 1954. The dean is William R. Willard, M.D.

NORTH CAROLINA

Durham

Duke University School of Medicine.—Organized in 1930. The first class was admitted Oct. 1, 1930. Coeducational. The premedical requirement is three years of college work. The academic year consists of three quarters each year. There is no summer quarter between the first and second year, but in the two clinical years the subjects of the autumn, winter, and spring terms are repeated in the summer quarter. This accelerated schedule is optional, and students may take their first year, and three quarters in each of their subsequent years, and receive their certificates in four calendar years, or if they receive permission from the curriculum committee they may at the end of their second year take the clinical quarters given during the summers and receive their certificates in three and one quarter calendar years. The B.S. degree in medicine may be conferred for special work after six quarters. Students are urged to spend three years in hospital or laboratory work after graduation and must give assurance satisfactory to the executive committee that they will spend at least two years. Active duty with the Army, Navy or Public Health Service can replace the second year. The fees are \$900 for three quarters. The registration for 1952-1953 was 315; graduates 85. During 1953 the quarters begin Jan. 5, March 30, July 6, Oct. 5, and end March 21, June 13, Sept. 19, and Dec. 19. The next first year class will be enrolled Oct. 5, 1953, and will end June 12, 1954. The dean is Wilburt C. Davison, M.D.

Winston-Salem

Bowman Gray School of Medicine of Wake Forest College, Zone 7.—Organized in 1902 at Wake Forest as a school offering only the first two years of the curriculum. In 1941 the school was moved to Winston-Salem and expanded to a complete four-year medical school under its present name. Coeducational. Three years of college work are required for admission. Clinical departments operate four quarters in the year; however, the plan of operation makes it possible for students to be out of school during one quarter of each of the clinical years for research, for study elsewhere, or for earning money to help defray expenses for their education. Tuition is \$750 per school year. The registration for 1952-1953 was 206; graduates 52. The last session for the freshman class began Oct. 6, 1952; sophomores Oct. 6, 1952; juniors and seniors July 14, 1952, and ended for freshmen, sophomores, juniors, and seniors on June 13, 1953. The present junior and senior classes began July 13, 1953, and will end on June 12, 1954. The next freshmen and sophomore classes will begin Oct. 5, 1953, and will end June 12, 1954. The dean is C. C. Carpenter, M.D.

OHIO

Cincinnati

University of Cincinnati College of Medicine, Eden and Bethesda Avenues, Zone 29.—Organized in 1819 as the Medical College of Ohio. Became the Medical College of the University of Cincinnati in 1896. In 1909 the Miami Medical College (founded in 1852) was merged with the University of Cincinnati's Medical School. Coeducational since organization. Three years of collegiate work are the minimal requirements for admission but a bachelor's degree is strongly recommended. Tuition is as follows: for legal residents of Cincinnati \$575 a year plus breakage fees (\$125 additional for those not legal residents). The registration for 1952-1953 was 354; graduates 89. The last session for freshmen and sophomores began Sept. 22, 1952, and ended May 30, 1953. The last session for juniors and seniors began Sept. 8, 1952, and ended for juniors June 13, 1953, and for seniors May 30, 1953. The next session for juniors and seniors will begin Sept. 8, 1953, and end for juniors June 12, 1954 and for seniors May 31, 1954. The next session for freshmen and sophomores will begin Sept. 21, 1953, and will end May 31, 1954. The dean is Stanley E. Dorst, M.D.

Cleveland

Western Reserve University School of Medicine, 2109 Adelbert Road, Zone 6.—Organized in 1843 as the Cleveland Medical College in cooperation with Western Reserve College the first class graduated in 1844. The school assumed the present title in 1881. In 1910 the Cleveland College of Physicians and Surgeons was merged. Coeducational since 1919. Students are required to have three years of college work for admission; four years preferred. The fees average \$800 per academic year. The registration for 1952-1953 was 324; graduates 78. The last session began Sept. 17, 1952 for freshmen and sophomores, and ended June 6, 1953. For juniors the last session began Sept. 10, 1952, and ended May 29, 1953. For seniors the last session began Aug. 25, 1952, and ended June 10, 1953. The next session for freshmen and sophomores will begin Sept. 23, 1953, and will end June 12, 1954. For juniors the session dates will be Sept. 16, 1953 to June 4, 1954, and for seniors from Aug. 31, 1953, to June 16, 1954. The dean is Joseph T. Wearn, M.D.

Columbus

Ohio State University College of Medicine, Neil and Eleventh Avenues, Zone 10.—The present College of Medicine became a part of The Ohio State University in 1914. It incorporates all the previous medical college interests in central Ohio, standing upon a foundation of six medical schools: The Medical Department of Willoughby University of Lake Erie, 1834-1846; The Willoughby Medical College of Columbus, 1846-1847; The Starling Medical College, 1847-1907; the Columbus Medical College, 1875-1892; The Ohio Medical University, 1892-1907; Starling-Ohio Medical College 1907-1914. Graduates of these colleges by action of the Board of Trustees are considered alumni of The Ohio State University. Coeducational since organization. Three years of collegiate work are required for admission. Tuition fees average \$495 per academic year and \$225 additional for nonresidents. The registration for 1952-1953 was 516; graduates 84. The last session began Sept. 30, 1952, and ended June 12, 1953. The next session will begin Sept. 29, 1953, and end June 11, 1954. The dean is Charles A. Doan, M.D.

OKLAHOMA

Oklahoma City

University of Oklahoma School of Medicine, 800 North East 13th Street, Zone 4.—Organized in 1900. Until 1910 gave only the first two years of the medical course at Norman, Oklahoma, after which a clinical department was established at Oklahoma City through consolidation with the Medical School of Epworth University. The first class graduated in 1911. Coeducational since organization. A new medical school building and a second teaching hospital became available in 1928, and since September of that year the entire four year course has been given in Oklahoma City. Prerequisites for admission are three years of college work. The fees for residents of Oklahoma are \$350; nonresidents \$700. The registration for 1952-1953 was 361; graduates 78. The last session began Sept. 15, 1952, and ended June 8, 1953. The next session for freshmen and sophomores will begin Sept. 14, 1953 and will end June 8, 1954. The third year class will begin on Sept. 1, 1953, and end June 8, 1954. The senior session began June 22, 1953, and will end June 8, 1954. The dean is Mark R. Everett, Ph.D.

OREGON

Portland

University of Oregon Medical School, 3181 S. W. Sam Jackson Park Road, Zone 1.—Organized in 1887. The first class graduated in 1888, and a class graduated each subsequent year except 1898. The Willamette University Medical Department was merged in 1913. Coeducational since organization. Entrance requirement is three years of college work. The total fees are \$456 a year for residents of Oregon and \$180 a year additional for nonresidents, plus a breakage deposit of \$15 a year for the first two years. The registration for 1952-1953 was 274; graduates 71. The last session began Sept. 29, 1952, and ended June 13, 1953. The next session will begin Sept. 30, 1953, and will end June 18, 1954. The dean is D. W. E. Baird, M.D.

PENNSYLVANIA

Philadelphia

Hahnemann Medical College and Hospital of Philadelphia, 235 North 15th Street, Zone 2.—Formed by the successive union of several institutions. The earliest original charter was obtained in 1848. The name Hahnemann Medical College was taken by one of these institutions in 1867. The present name was assumed in 1885. The first class graduated in 1849. Coeducational since 1941. A minimum of three years of collegiate work in an approved college of arts and sciences is required for admission. Fees for 1953-1954 session are respectively for the first, second, third, and fourth year classes \$847, \$847, \$847 and \$877. The registration for 1952-1953 was 385; graduates 83. The last session began for all students Sept. 15, 1952, and ended for the first and second year classes on June 13, 1953; for the third year class June 12, 1953, and for the fourth year class on June 18, 1953. The next session for all classes will begin Sept. 14, 1953, and will end for the first and second year classes June 12, 1954, for the third year class June 11, 1954, and for the fourth year class June 17, 1954. The dean is Charles L. Brown, M.D.

Jefferson Medical College of Philadelphia, 1025 Walnut Street.—Organized in 1825 as the Medical Department of Jefferson College, Canonsburg, Pa. It was chartered with its present title in 1838. Classes have been graduated annually beginning in 1826. In 1838 a separate university charter was granted without change of title, since which time it has continued under the board of trustees. For the class entering in 1953 the minimum entrance requirements will be three years of college work. The tuition fee averages \$850 a year. The registration for 1952-1953 was 662; graduates 160. The last session began for all classes on Sept. 8, 1953. Classes ended for freshmen on June 10, 1953, for sophomores on June 18, 1953, for juniors on June 4, 1953, and for seniors on May 29, 1953. Graduation was June 12, 1953. The next session will begin for all classes on September 14, 1953, and will end for freshmen on June 12, 1954, for sophomores on June 26, 1954, for juniors on June 5, 1954, and for seniors on June 18, 1954. The dean is George Allen Bennett, M.D.

Temple University School of Medicine, 3400 North Broad Street, Zone 40. Organized in 1901. The first class graduated in 1904. Coeducational since organization. Three years of collegiate work are required for admission. The fees average \$800 per academic year. The registration for 1952-1953 was 508; graduates 122. The last session began Sept. 5, 1952, and ended June 13, 1953, for freshmen, sophomores, and juniors. The senior

class began Aug. 18, 1952, and ended June 18, 1953. The next session will begin Sept. 5, 1953, and will end June 19, 1954. The vice president and dean is William N. Parkinson, M.D.

University of Pennsylvania School of Medicine, Thirty-Sixth and Pine Streets.—Organized in 1765. Classes were graduated in 1768 and in all subsequent years except 1772 and 1775-1779, inclusive. The original title was the Department of Medicine, College of Philadelphia. The present title was adopted in 1909. It granted the first medical diploma issued in America. In 1916, it took over the Medico-Chirurgical College of Philadelphia to develop it as a graduate school. Coeducational since 1914. Three years of collegiate work are required for admission. The tuition fee is \$850, with a deposit of \$15, a general fee including student health of \$70 and a matriculation fee of \$5. The registration for 1952-1953 was 511; graduates 129. The last session began Sept. 2, 1952, and ended June 6, 1953. The next session will begin Sept. 8, 1953, and will end June 12, 1954. The dean is John McK. Mitchell, M.D.

Woman's Medical College of Pennsylvania, 3300 Henry Avenue, Zone 29.—Organized in 1850. Classes were graduated in 1852 and in all subsequent years except 1862. At least three years of collegiate work are required for admission and candidates with a degree are given preference. The curriculum covers three years of 36 weeks each and one year of 40 weeks. Total fees are \$860 yearly. The registration for 1952-1953 was 183; graduates 46. The last session began Aug. 4, 1952, for fourth year and Sept. 11, 1952, for all other years and ended June 13, 1953. The next session will begin Aug. 10, 1953, for the fourth year and Sept. 14, 1953 for all other classes and will end June 12, 1954. The dean is Marion Fay, Ph.D.

Pittsburgh

University of Pittsburgh School of Medicine, 3941 O'Hara Street.—Organized in 1886, as the Western Pennsylvania Medical College and in 1908 became an integral part of the University of Pittsburgh, removing to the university campus in 1910. The first class graduated in 1887. Coeducational since 1899. Entrance requirements are three years of collegiate work. The total fees are \$700 each year. The registration for 1952-1953 was 389; graduates 99. The last session began Sept. 8, 1952, and ended June 10, 1953. The next session will begin on Sept. 14, 1953, and will end June 9, 1954. The dean is William S. McEllroy, M.D.

SOUTH CAROLINA

Charleston

Medical College of South Carolina, 16 Lucas Street, Zone 16.—Organized 1823. The first class graduated in 1825. In 1832 a medical college bearing the title Medical College of the State of South Carolina was chartered and the two schools continued as separate institutions until they merged in 1838. Name changed by Act of General Assembly in February 1952 to Medical College of South Carolina. Classes were graduated in all years except 1862 to 1865, inclusive. Coeducational from 1895 to 1912, when privileges for women were withdrawn, being restored in 1917. At least three years of collegiate work are required for admission. The total fees average \$432 each year for residents of South Carolina and \$1,532 for nonresidents of the state. The registration for 1952-1953 was 260; graduates 57. The last session began on Sept. 25, 1952, and ended June 4, 1953. The next session will begin on Sept. 24, 1953, and will end June 3, 1954. The president is Kenneth M. Lynch, M.D., and the dean is John T. Cuttino, M.D.

TENNESSEE

Memphis

University of Tennessee College of Medicine, 847 Union Avenue, Zone 3.—Organized in 1876, at Nashville as Nashville Medical College. First class graduated in 1877, and a class graduated each subsequent year. Became Medical Department of University of Tennessee in 1879. In 1909 it united with the Medical Department of the University of Nashville to form the joint Medical Department of the Universities of Nashville and Tennessee. This union was dissolved in 1911. The trustees of the University of Nashville by formal action of that board named the University of Tennessee College of Medicine as its legal successor. In 1911 it moved to Memphis, where it united with the College of Physicians and Surgeons. The Memphis Hospital Medical College was merged in 1913, Lincoln Memorial University Medical Department was merged in 1914. Coeducational since 1911. Three years of collegiate work are required for admission. The B.S. degree is conferred on students completing the science-medical curriculum of the University. The fees are \$450 for residents and \$675 for nonresidents. The registration for 1952-1953 was 713; graduates 155. During the next academic year the quarters begin September, January, March, and July. The vice president and dean is O. W. Hyman, Ph.D.

Nashville

Meharry Medical College, Eighteenth Avenue North and Meharry Boulevard, Zone 8 (For Negro Youth).—Organized in 1876 as the Meharry Medical Department of Central Tennessee College, which became Walden University in 1900. First class graduated in 1877. Obtained new charter independent of Walden University in 1915. Coeducational since 1876. Three years of college work in a school of liberal arts are required for admission. Tuition and fees are: first year \$631; second year \$621; third year \$611; fourth year \$626. The curriculum covers four academic years of thirty-four weeks each. In September 1942, Meharry Medical College instituted the quarter system. The registration for 1952-1953 was 260; graduates 60. The

last session began on Sept. 29, 1952, and ended on June 8, 1953. The next session begins Sept. 28, 1953, and will end on June 7, 1954. The president is Harold D. West, Ph.D., and the dean is Daniel T. Rolfe, M.D.

Vanderbilt University School of Medicine, Twenty-first Avenue South at Edgehill, Zone 5.—The school was founded in 1874. The first class graduated in 1875. Coeducational since 1925. For matriculation, students must be graduates of collegiate institutions of recognized standing or seniors in *absentia*, who will receive the bachelor degree from their college after having completed successfully one year of work in the school of medicine. The course covers four academic years, two of nine months each and two of ten months each. The fees average \$810 per academic year. The registration for 1952-1953 was 206; graduates 51. The last session began Sept. 22, 1952, and ended June 7, 1953. The next session will begin Sept. 28, 1953, and will end June 6, 1954. The dean is John B. Youmans, M.D.

TEXAS

Dallas

Southwestern Medical School of The University of Texas, 2211 Oak Lawn.—Organized in 1943. The first class graduated March 20, 1944. Coeducational since organization. Became a branch of the University of Texas, Sept. 1, 1949. The medical school is operated on the regular program offering three terms of twelve weeks each per academic year. The tuition fees for residents average \$125 per year. The nonresident fee is \$375 per year. Three years of college work are required for admission. The registration for 1952-1953 was 399; graduates 98. The last session began Sept. 8, 1952, and ended June 1, 1953. The next session will begin Sept. 9, 1953 and will end June 9, 1954. The dean is George N. Aagaard, M.D.

Galveston

University of Texas School of Medicine, 900 Strand.—Organized in 1890. The first class graduated in 1892. Coeducational since organization. Three years of collegiate training are required for admission. The fees average \$97 per academic year, including health fees for medical care and hospitalization. The registration for 1952-1953 was 595; graduates 138. The last session began on Sept. 16, 1952 for freshmen, Sept. 22, 1952, for sophomores, and July 7, 1952, for seniors, all classes ended June 6, 1953. The next freshman class will matriculate Sept. 15, 1953, and the sophomore and junior classes will matriculate on Sept. 21, 1953, the seniors matriculated July 6, 1953, all classes will end June 5, 1954. The director is Chauncey D. Leake, Ph.D., and D. Bailey Calvin, Ph.D. is dean of student and curricular affairs.

Houston

Baylor University College of Medicine, Texas Medical Center.—Organized in 1900 at Dallas as the University of Dallas Medical Department. In 1903 it took its present name and became the Medical Department of Baylor University. It acquired the charter of Dallas Medical College in 1904. The school was moved to Houston in 1943. Coeducational since organization. The first class graduated in 1903. Entrance requirements are three years of collegiate work. The course covers four years of eight months each. The fees are respectively \$775, \$765, \$750, \$775. The registration for 1952-1953 was 365; graduates 88. The last session began Sept. 29, 1952, and ended June 8, 1953. The next session will begin Sept. 14, 1953, and will end May 31, 1954. The dean is Stanley W. Olson, M.D.

UTAH

Salt Lake City

University of Utah College of Medicine.—Organized in 1905. Coeducational since organization. Four year curriculum established, March 1943. Three years of collegiate work are required for admission. The next freshman class will be admitted in September 1953. All subsequent freshman classes will begin in September of each year. Classes are scheduled during three academic quarters (12 weeks) each calendar year. Applications for admission (complete) must be submitted prior to October 31 preceding opening date. The fees for each quarter average \$480 (resident), and \$830 (non-resident). The registration for 1952-1953 was 181 and graduates 28. The next session for freshmen, sophomores and juniors will be in September 1953, and end in June 1954. The next session for seniors will begin in September 1954, and end in June 1955. The present session for seniors began in March 1953, and will end in March 1954. The dean is John Z. Bowers, M.D.

VERMONT

Burlington

University of Vermont College of Medicine, Pearl Street, College Park.—Organized with complete course in 1822. Classes graduated in 1823 to 1836, inclusive, when the school was suspended. It was reorganized in 1853 and classes were graduated in 1854 and in all subsequent years. Coeducational since 1920. Three years of college work are required for admission. For residents of Vermont the tuition fee averages \$567 per session. Nonresidents are charged an additional \$250 each session. A \$25 fee is charged for the doctor's degree. Registration for 1952-1953 was 184; graduates 42. The last session for freshmen, sophomores and juniors began Sept. 12, 1952, and ended June 14, 1953. The last senior class began June 27, 1952 and graduated June 14, 1953. The present senior class began June 29, 1953; the next freshman, sophomore and junior classes will begin Sept. 11, 1953, and all classes will end June 13, 1954. The dean is George A. Wolf, M.D.

VIRGINIA

Charlottesville

University of Virginia School of Medicine, University Station.—Organized in 1827. Classes were graduated in 1828 and in all subsequent years except 1865. Coeducational since the session of 1920-1921. Three years of college work are required for admission. For residents of Virginia the tuition and other required fees are \$465 per academic year; for non-residents, \$865. The registration for 1952-1953 was 286; graduates 70. The last session began Sept. 19, 1952, and ended June 15, 1953. The next session will begin Sept. 18, 1953, and will end June 14, 1954. The dean is Thomas H. Hunter, M.D.

Richmond

Medical College of Virginia, Twelfth and Broad Streets.—Organized in 1838 as the Medical Department of Hampden-Sydney College. Present title was taken in 1854. In 1913 the University College of Medicine was merged. Coeducational since 1918. Classes were graduated in 1838 and in all subsequent years. Three years of collegiate work, as a minimum, are required for admission. Preference, however, is given to applicants with a baccalaureate degree. Fees average \$560 per academic year. Nonresidents are charged an additional \$275 each year. The registration for 1952-1953 was 366; graduates 100. The last session began Sept. 10, 1952, for second, third and fourth year classes and ended June 2, 1953. The last session for the first year class began Sept. 8, 1952, and ended June 2, 1953. The subsequent session will begin Sept. 10, 1953, for the first year class and Sept. 14, 1953, for the second, third and fourth year classes and will end June 1, 1954. The dean is John B. Truslow, M.D.

WASHINGTON

Seattle

University of Washington School of Medicine, Seattle 5.—Established by the Legislature in 1945 and organized as one of the professional schools in the Division of Health Sciences of the University of Washington in 1946. The first class graduated in 1950. Coeducational. The mini-

imum requirement for admission is three years of collegiate work. Tuition fees are \$390 each year for residents of Washington and Alaska and \$585 for nonresidents of these areas. Registration for 1952-1953 was 284; graduates 72. The first three classes were limited to 50 students but with the class entering in 1949 this number was raised to 75. The last session began Sept. 22, 1952, and ended June 13, 1953. The next session will begin Sept. 21, 1953, and will end June 12, 1954. The acting dean is James W. Haviland, M.D.

WISCONSIN

Madison

University of Wisconsin Medical School, 418 N. Randall Avenue.—Organized 1907. Gave only the first two years of the medical course until 1925, when the clinical years were added. Coeducational since organization. The entrance requirement is three years of collegiate work. Fees for the first, second and third years \$340, for the fourth year \$250 per academic year for residents. An additional fee for \$320 per year is charged non-residents. Registration for 1952-1953 was 322; graduates 76. The last session for freshman, sophomore and junior students began Sept. 22, 1952, and ended June 15, 1953. The last senior class began June 30, 1952, and ended June 19, 1953. The next freshman, sophomore and junior classes will begin Sept. 21, 1953, and will end June 14, 1954. The senior class began June 29, 1953, and will end June 18, 1954. The dean is William S. Middleton, M.D.

Milwaukee

Marquette University School of Medicine, 561 North Fifteenth Street, Zone 3.—Organized in December 1912 by the merger of the Milwaukee Medical College and the Wisconsin College of Physicians and Surgeons. Coeducational since organization. Three years of collegiate work are required for admission. The fees are \$850 per academic year. The registration for 1952-1953 session was 390; graduates 92. The last session began Sept. 15, 1952, and ended June 5, 1953. The last senior class began June 9, 1952, and ended June 6, 1953. The next session for freshman, sophomore, and junior students will begin Sept. 14, 1953, and will end June 4, 1954. The 1953-1954 session for seniors began on June 8, 1953, and will end June 5, 1954. The dean is John S. Hirschboeck, M.D.

APPROVED MEDICAL SCHOOLS IN CANADA

ALBERTA

University of Alberta Faculty of Medicine, Edmonton.—Organized in 1913. Coeducational since organization. Has given complete medical course since 1924. Tuition for the first and second years is \$425 per session, and for the third and fourth years is \$450 per session. The registration for 1952-1953 was 231; graduates 52. The last session began Sept. 2, 1952, and ended April 30, 1953. The next regular session will begin Sept. 1, 1953, and end April 30, 1954. The dean is John W. Scott, M.D.

MANITOBA

University of Manitoba Faculty of Medicine, Bannatyne Avenue, Winnipeg.—Organized in 1883 as Manitoba Medical College. First class graduated in 1886, and a class graduated each subsequent year. The college transferred all its property to the University of Manitoba in 1919 and assumed the present title. Coeducational since organization. Matriculation requirements include three years of collegiate work in the faculty of arts and sciences of a recognized university. The course extends over four years of eight months each and a hospital internship. The fees average \$438 yearly. The registration for 1952-1953 was 273; graduates 72. The last session began Sept. 8, 1952, and ended on May 15, 1953. The next session will begin on Sept. 14, 1953, and will end on May 22, 1954. The dean is Lennox G. Bell, M.D.

NOVA SCOTIA

Dalhousie University Faculty of Medicine, Morris Street, Halifax.—Organized in 1867. Incorporated as the Halifax Medical College in 1875. Reorganized as an examining faculty, separate from the Halifax Medical College, in 1885. In 1911, in accordance with an agreement between the Governors of Dalhousie University and the Corporation of the Halifax Medical College, the work of the latter institution was discontinued and a full teaching faculty was established by the university. First class graduated in 1872. Coeducational since 1871. Requires for matriculation two years of arts. The regular medical course covers four years and a hospital internship of one year approved by the medical faculty. The fees average \$415 yearly; nonresidents \$250 additional fee. The last session for freshmen, sophomores and juniors began Sept. 2, 1952, and for seniors May 5, 1952; all classes ended May 12, 1953. The registration for 1952-1953 was 216; graduates 56. The next session for all classes will begin Sept. 7, 1953 and will end May 11, 1954. The dean is H. G. Grant, M.D.

ONTARIO

Queen's University Faculty of Medicine, Kingston.—Organized in 1854. First class graduated in 1855 and a class graduated each subsequent year. The course consists of six sessions of 32 teaching weeks, the sixth session being devoted entirely to clinical work in the hospitals affiliated with the University. The latter is not considered an internship. Fees for each of six years amount to \$420.50. The degrees awarded are M.D., C.M. Freshman will be admitted annually. Registration for 1952-1953 was 362;

graduates 57. The last session began Sept. 15, 1952 and ended May 13, 1953. The next session will begin Sept. 14, 1953, and will end May 12, 1954. The last convocation was held June 6, 1953. The dean is G. Harold Ettinger, M.D.

University of Ottawa Faculty of Medicine, Ottawa.—Organized in September, 1945. The degree of M.D. is conferred after 1 year premedical studies, 4 years medicine and 1 year of internship. The minimum academic requirements for admission to the premedical year are the Ontario grade 13 honour matriculation, or equivalent, certificates. Students who have obtained their bachelor degree in arts or in science and who have completed the required courses in biology, chemistry, and physics may be admitted to the first year of medicine. The registration for 1952-1953 in the medical and premedical years was 251. The next session for the premedical year will begin on Sept. 10, 1953, and for first, second, third, and fourth medical years, on Sept. 8, 1953. Internship is from May 1 to May 1. The session for the premedical year will end in May, 1954, for first, second, and third medical years in June, 1954, and the fourth medical year in April, 1954. Students graduate in the first week of June. The dean is A. L. Richard, M.D.

University of Western Ontario Faculty of Medicine, 346 South Street, London.—Organized in 1881 as the Western University Faculty of Medicine. First class graduated in 1883 and a class graduated each subsequent year. Present title in 1923. The Faculty of Medicine has been under the control of the Board of Governors of the University of Western Ontario since 1913. Coeducational since 1913. The normal course of study covers two honor college years of nine months each and four years of nine months each in the Faculty of Medicine. The total fees to residents of Canada for the last four years are \$550 a year. The registration for 1952-1953 was 238; graduates 61. The last session began Sept. 8, 1952, and ended May 20, 1953. The next session begins Sept. 14, 1953, and ends May 26, 1954. The dean is J. B. Collip, M.D.

University of Toronto Faculty of Medicine, Toronto 5.—Organized in 1843 as the Medical Faculty of King's College. Abolished in 1853. Re-established in 1887. In 1902 it absorbed Victoria University Medical Department and in 1903 it absorbed the Medical Faculty of Trinity University. Coeducational since 1903. The degree of M.D. is conferred after 4 years in the study of medicine. Admission to the medical course is gained following honour matriculation and after two years in the study of premedical requisites in the University of Toronto. A certain number are admitted each year to the first medical year who hold arts degrees from recognized universities and who have covered the necessary work in the humanities and sciences. The B.Sc. (Med.) degree may be conferred for special work or investigation as a graduate degree, or under certain circumstances for an extra year's work as an undergraduate. The registration for 1952-1953 in the medical and premedical years was 883; graduates 162. The next session for first and second premedical years will begin on Sept. 23, 1953 and for first, second, third and fourth medical years on Sept. 21, 1953. The session for premedical years will end on May 1, 1954, and for medical years on May 15, 1954. Students will graduate annually in June. The dean is J. A. MacFarlane, M.B.

QUEBEC

McGill University Faculty of Medicine, 3640 University Street, Montreal.—Founded in 1823 as Montreal Medical Institution, became the Medical Faculty of McGill University in 1829; first class graduated under the university auspices in 1833. No session between 1836-1839, owing to political troubles. In 1905 it absorbed the Faculty of Medicine of the University of Bishop's College. Coeducational since 1917. Three years of collegiate work are required for admission. The total fees for each of the four medical years are \$593. The registration for 1952-1953 was 442; graduates 115. The last session began Sept. 3, 1952, and ended May 30, 1953, for the first three classes and May 2, 1953, for the senior class. The next session will begin Sept. 9, 1953, and will end June 5, 1954, for the first three classes and May 1, 1954, for the seniors. The dean is G. Lyman Duff, M.D.

University of Montreal Faculty of Medicine, 2900 Mount Royal Boulevard, Montreal.—Organized in 1843 as the Montreal School of Medicine and Surgery. In 1891, by Act of Parliament, was merged with the Faculty of Medicine of Laval University at Montreal (organized in 1878). Present name by Act of Parliament in 1920. A class was graduated in 1843 and each subsequent year. Coeducational since 1925. The requirements for ad-

mission are: B.A. degree or its equivalent, with a supplementary year in the Faculty of Pure Science or an entrance examination on the premedical subjects. An internship is required for graduation. The fees are \$390 yearly for residents, and \$465 yearly for nonresidents. The registration for 1952-1953 was 414; graduates 89. The last session began Sept. 9, 1952, and ended May 22, 1953. The next session will begin Sept. 10, 1953, and will end May 23, 1954. The dean is Wilbrod Bonin, M.D.

Laval University Faculty of Medicine, Quebec.—The Quebec School of Medicine, organized in 1848, became in 1852 the Laval University Faculty of Medicine; first class graduated in 1855, and a class graduated each subsequent year. The premedical requirement is a B.A. degree. The medical course is six years in length, including a one year internship in affiliated teaching hospitals. The first year (premedical) may be avoided by a special examination. The fees for each of the medical years average \$400 for residents of Canada. Nonresidents are charged an extra fee of \$200 each year. The registration for 1952-1953 was 603; graduates 108. The last session began Sept. 15, 1952, and ended June 1, 1953. The next session will begin Sept. 14, 1953, and will end June 5, 1954. The dean is Charles Vézina, M.D.

APPROVED SCHOOLS OF THE BASIC MEDICAL SCIENCES IN THE UNITED STATES

MISSISSIPPI University

University of Mississippi School of Medicine.—Organized in 1903. Coeducational since organization. A clinical department was established at Vicksburg in 1908 but was discontinued in 1910 after graduating one class. Entrance requirement is three years of collegiate work. Fees average \$416.50 annually. There is a nonresident additional fee of \$200. The school operates on an accelerated program by accepting two freshman classes each session. Registration for 1952-1953 was 109. The last session for freshmen began July 14, 1952, and ended May 2, 1953. An additional freshman class was admitted Jan. 5, 1953, and will end Oct. 10, 1953. The sophomore session began May 26, 1952, and ended Jan. 31, 1953. An additional sophomore session began Oct. 27, 1952, and ended July 3, 1953. The dean is David S. Pankratz, M.D.

MISSOURI Columbia

University of Missouri School of Medicine.—Organized at St. Louis in 1845; was discontinued in 1855 but was reorganized at Columbia in 1872. Teaching of the clinical years was suspended in 1909. Coeducational since 1872. The entrance requirement is three years of collegiate work. The B.S. degree in medicine is conferred at the end of the second year. Total fees for the first year are \$249, for the second year \$235. The registration for 1952-1953 was 83. The last session began Sept. 11, 1952, and ended June 7, 1953. The next session will begin Sept. 15, 1953, and will end June 12, 1954. The dean is Roscoe L. Pullen, M.D.

NEW HAMPSHIRE Hanover

Dartmouth Medical School.—Organized by Dr. Nathan Smith in 1797. The first class graduated in 1798. It is under the control of the Trustees of Dartmouth College. Courses of the third and fourth years were discontinued in 1914. Three years of college work and candidacy for the bachelor's degree are required for admission. Candidates for the A.B. degree in Dartmouth College may substitute the work of the first year in medicine for that of the senior year. The tuition is \$800 for each year. The registration for 1952-1953 was 48. The last session began on Sept. 21, 1952, and ended June 14, 1953. The next session will begin Sept. 20, 1953, and will end June 13, 1954. The dean is Rolf C. Syvertsen, M.D.

NORTH CAROLINA Chapel Hill

University of North Carolina School of Medicine.—Organized in 1890. Until 1902 this school gave only the work of the first two years, when the course was extended to four years by the establishment of a department in Raleigh. The first class was graduated in 1903. A class was graduated each subsequent year, including 1910, when the clinical department at Raleigh was discontinued. Coeducational since 1914. Three years of college work are normally required for admission. The tuition is \$600 per year for residents; for nonresidents an additional \$600 per year. The registration for 1952-1953 was 167. The North Carolina legislature in 1947 appropriated funds for the expansion of the school to the full four years. The first senior class will graduate June 7, 1954. The last regular session began Sept. 22, 1952, and ended June 8, 1953. The next session will begin Sept. 18, 1953, and will end June 7, 1954. The dean is W. Reece Berryhill, M.D.

NORTH DAKOTA Grand Forks

University of North Dakota School of Medicine.—Organized in 1905. Offers only the first two years of the medical course. Coeducational since organization. Three years work in a college of liberal arts are required

for admission. The B.S. degree in combined arts-medical course is conferred at the end of the second year. The fees are \$126.50 each year for resident students and \$206.50 for nonresidents. The registration for 1952-1953 was 72. The last session began Sept. 15, 1952, and ended June 9, 1953. The next session will begin Sept. 18, 1953, and will end June 5, 1954. The dean is Theo. H. Harwood, M.D.

SOUTH DAKOTA Vermillion

University of South Dakota School of Medical Sciences.—Organized in 1907 as the University of South Dakota School of Medicine. Present title in 1937. Coeducational since organization. Offers only the first two years of the medical course. Three years work in a college of liberal arts are required for admission. Students who complete the third year of premedical work in the College of Arts and Sciences at the University of South Dakota may apply the work of the first year of medicine to an A.B. degree: The B.S. degree is conferred at the end of the second year on those students who do not hold a combination (Arts and Sciences and Medicine Course) A.B. degree. The tuition is \$270 for the first year residents and \$360 for second year residents; \$480 for first year nonresidents, and \$570 for second year nonresidents. Registration for 1952-1953 was 63. The last session began Sept. 1, 1952, and ended June 4, 1953. The next session for first and second year students will commence Sept. 1, 1953, and will end June 5, 1954, for first year students and will end June 30, 1954, for second year students. Following the didactic work in the second year, the sophomores spend a three week period of clerkship at the three Sioux Falls hospitals. After this they are assigned to a physician in general practice in the state for a three-week preceptorship program. The dean is W. L. Hard, Ph.D.

WEST VIRGINIA Morgantown

West Virginia University School of Medicine.—Organized in 1912. Gives the first two years of the medical course, but agreement has been made for the transfer of 25 students each year to the Medical College of Virginia. Coeducational since organization. Entrance requirements are three years of collegiate work. The B.S. degree is conferred at the end of the second year. Fees for residents of the state are, respectively, \$258 and \$268; nonresidents, \$442 additional each year. The registration for 1952-1953 was 60. The last session began Sept. 15, 1952, and ended June 1, 1953. The next session will begin Sept. 14, 1953, and will end May 31, 1954. The dean is Edward J. Van Liere, M.D.

APPROVED SCHOOL OF THE BASIC MEDICAL SCIENCES IN CANADA

SASKATCHEWAN

University of Saskatchewan School of Medical Sciences, Saskatoon.—Organized in 1926. Coeducational. Offers the first two years of the medical course. Two years of university premedical work is required for admission. The B.A. degree is conferred at the end of the second year. The fees are \$380. The registration for 1952-1953 was 61. The last session for freshmen began Sept. 24, 1952, and ended June 17, 1953. The next session will begin Sept. 23, 1953, and will end June 9, 1954. The dean is J. Wendell Macleod, M.D.

THE JOURNAL

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FIFTY-THIRD ANNUAL REPORT ON MEDICAL EDUCATION

In this issue of THE JOURNAL is the 53rd Annual Report on Medical Education in the United States and Canada prepared by the Council on Medical Education and Hospitals as a public service. Among the most important and interesting events of the past year are those that reflect the critical reevaluation to which the whole of medical education has been subjected since the end of the war. A considerable number of innovations made last year by the schools and plans for revision of programs are listed in this report. The one certain to attract the most attention is the experimental program of undergraduate medical education inaugurated at Western Reserve University, where the traditional departmental approach to teaching has been abandoned and the entire curriculum organized on the basis of multidisciplinary, correlative teaching. A brief outline of this experimental program is contained in this report, and a fuller discussion of its present development will be found in the Proceedings of the Annual Congress on Medical Education and Licensure.

The wide and intense interest in improving medical education was also reflected in the First World Conference on Medical Education, which was held in London, England, in August. Men from all parts of the world met at this conference to pool their experiences and to discuss major educational problems of importance in medicine.

The most urgent problem, one which has faced the medical schools ever since the end of World War II, is the financial one. Although large sums have been expended for the development of facilities and for seven consecutive years budgets of the schools have steadily increased, there remains an urgent need for additional funds. The increases in available funds have not been distributed uniformly among the schools, and many schools are in need of capital funds for the improvement and expansion of their facilities, especially those for the basic medical sciences. Increases in operating budgets have been offset in some measure by increases in costs and in the educational and service responsibilities of the schools.

In an effort to estimate the financial needs of the schools for operating funds, the Council on Medical Education and Hospitals and the Association of American Medical Colleges have instituted an intensive study of the problem. It is hoped that the results of this study will

be available late this year or early in 1954. Recent information on the cost of attending medical school, as might be expected, shows there has been a definite increase in cost since similar data were collected three years ago. The average cost of attending medical school this year was \$2,000 as compared with \$1,800 three years ago.

This year for the first time, the schools were requested to furnish data on the total amounts of scholarship and loan funds that are available to their undergraduate medical students. There was great variation in the sums available for these purposes. While some schools are fortunate in having access to rather large funds, the average amount available for scholarships was only \$12,014 and the average for loan funds was \$41,201. The smallest scholarship fund reported was \$300, and the smallest loan fund was \$500. It is apparent that a certain number of schools can offer little assistance to students needing financial help. In fact the small amounts of funds make it appear that in some instances no vigorous effort has been made to obtain money for these purposes.

The 1952 freshman class and the expected freshman class for 1953 are both slightly smaller than the record class of 1951. This leveling off after a long period of marked and progressive growth in the size of entering classes is interpreted as a readjustment by the schools to near capacity operation. When expansion programs now under way are completed and when new medical schools now in the final stages of development are in full operation, there will be further increases in the size of the entering class. Total student enrollments will continue to advance, since the entering class, although somewhat smaller than that of the previous year, was still larger than the graduating senior class.

Special attention is directed to the fact that, for the second year, the number of graduate students and physicians enrolled in courses leading to graduate degrees in the basic medical sciences has decreased. There has been a total decrease, for the two year period, of 27%. The decline in the ranks of potential teachers in these vital areas, where teachers are already in short supply, is a matter of grave concern, for, unless the supply of basic science teachers can be increased, it will not be possible to continue to expand facilities for training physicians and the quality of existing programs is certain to suffer. This situation helps to highlight the financial problem of the medical schools. For, while it is conceded that salaries in basic science departments are in many instances higher than salaries of similar ranks in other university departments, they still are not high enough to compete successfully with the opportunities available in clinical medicine, in industry, and in certain other professional fields.

It is obviously impossible to predict what demands national defense will make on medical education in the near future. The present truce in Korea may result in some reduction or delay in calling up of physicians under the amended "Doctor-Draft" law of 1953. However, the long-term needs of national defense are such that, for the foreseeable future, virtually all medical students deferred from military service for the purpose of completing their medical education should expect, on completion of their internships, to serve with the armed forces.

FINAL REPORT OF SURVEY OF MEDICAL EDUCATION

"Medical Education in the United States at Mid-Century," the final report of the Survey of Medical Education, is now available in book form.¹ This volume will be of the greatest interest not only to those directly involved in medical education but also to practicing physicians who are frequently called on to interpret medical education and the problems of medical schools to the citizens of their communities.

The survey was organized in 1947 by the Council on Medical Education and Hospitals and the Association of American Medical Colleges. Its purpose was to evaluate critically the present programs of the medical schools, to determine the degree of success with which they are meeting their social and educational responsibilities, and to assess, in their broad aspects, the future responsibilities of medical education.

The attainment of these objectives has been a tremendous task, requiring detailed and comprehensive study of all aspects of the activities of medical schools. Data on which the report is based were obtained from an intensive first-hand study of 41 representative schools by the survey staff, from questionnaires sent to all of the medical schools in the United States, and from information accumulated over a period of many years by the Council on Medical Education and Hospitals and the Association of American Medical Colleges.

The report covers the function of the medical schools in education, research and service, finances, administrative organization policies and practices, curriculum and teaching methods, and advanced education, including internship and residency training, graduate training in the basic medical sciences, and postgraduate training. These programs are critically analyzed and recommendations made for their improvement.

Among the significant contributions of the report is its portrayal of the multiplicity and complexity of the responsibilities that are borne by a modern medical school. The rapid evolution of modern science and its application to medicine, together with the sweeping changes that have occurred in recent decades in the social milieu, have profoundly affected the teaching of medical science and its applications. These changes have created, for medical education, unprecedented problems for which there is no easy solution. The rapid expansion of research programs, particularly in the past 15 years, and the service obligations in which medical schools have become involved have placed strains on their finances that have impaired and even jeopardized the basic undergraduate educational programs. The report makes evident the need for clear definition and delineation of the scope of activities that should be undertaken by the medical schools and indicates methods by which the schools may improve their situation.

The enormous expansion in scientific knowledge, much of it revolutionary in character, and the attempt to incorporate large amounts of this material in the traditional pattern of medical education has distorted and overburdened the curriculum. There is a great need for new thinking in this area and for extensive revision of the

curriculum. It is also apparent that, if the schools are to be successful in producing physicians competent to apply modern medical science and to advance it, premedical training must be improved and better methods for selection of students to be admitted to medical school must be developed.

The Flexner Report on medical education in the United States, published in 1910, had a revolutionary impact on American medical education. This report, together with the ferment that it stimulated, resulted in the elimination of the proprietary medical schools and the establishment of medical schools on a true university basis. Much critical thinking and hard work have been done by medical faculties in the ensuing years in the development of their programs. Despite the serious problems that now face the schools, the situation is in no way comparable to that of half a century ago, and it can hardly be expected that the present report will result in changes as great as those following the Flexner Report. Nevertheless, the problems now facing the schools call for extensive modification of the programs of the medical schools, and the schools will be assisted tremendously in this undertaking by the critical analyses and the recommendations offered in the report of the survey.

PRIVATE PATIENTS IN MEDICAL TEACHING

A major problem in medical education today is the extent to which private patients can be utilized in the education of medical students, interns, and residents and the best methods of developing teaching programs centered entirely or largely around private patients. A related problem of tremendous interest and importance to many hospitals with few or no service beds is how such hospitals can develop teaching programs that will enable them to compete successfully for competent interns and residents with hospitals maintaining large public wards.

A stimulating analysis and discussion of this important problem is presented in the article "Private Beds in Medical Teaching" by S. Howard Armstrong Jr., which appears in this issue of *THE JOURNAL*. Armstrong maintains that, provided certain criteria are met, teaching can be carried out successfully with private patients at all levels except possibly with that of the senior residency. These criteria may be summarized as follows: The patients must present the range of serious disease that physicians will encounter later in their careers. Opportunity must be available for students and house staff to follow the course of patients after discharge from the hospital. The members of the staff must be devoted to teaching and willing to make the sacrifice of time and effort that good teaching requires. The attending physicians must be sufficiently secure in their relationships to their patients to share responsibility with junior colleagues. Finally, the attending staff must be sensitive to the difference between mere training and true education.

It is pointed out that the most difficult problems in utilizing private patients involve not the patient but the relationship of physicians to each other. The nature of these problems are analyzed at length in the paper, and examples of their successful solution are cited.

This discussion is notable for its realistic understanding of the problems facing student, intern, resident, full-

1. Deitrick, J. E., and Berson, R. C.: *Medical Schools in the United States at Mid-Century*, New York, McGraw-Hill Book Company, 1953.

time teacher, the practicing physician and the patient in the organization of an effective educational program centered around private patients. The prerogatives and interests of the practicing physician in his relationship to his private patients are respected at the same time that his responsibilities to the students, interns, and residents assigned to him are emphasized. The desirability of giving the intern and resident increasing responsibility is balanced against their capacity to assume such responsibility and the welfare and rights of the patient.

No ready-made answer to the whole problem of how private patients may best be utilized is advanced, and the author frankly raises questions to which he does not have the answers. The report was prepared for the practicing physician who wants background information on modern processes and standards of clinical education to strengthen teaching in his own hospital. A careful study of this report by hospital staffs should aid them significantly in an evaluation of the effectiveness and attractiveness of their own teaching programs.

FILTRABLE AGENT CAUSING MOUSE SALIVARY GLAND CARCINOMA

Gross¹ of the Veterans Administration Hospital, Bronx, New York, has recently demonstrated that leukemia developing "spontaneously" in mice of the Ak inbred line is actually caused by a filtrable agent, transmitted directly through the embryo.² The presence of the agent in extracts prepared from leukemic organs of Ak mice was demonstrated by a bioassay consisting of the injection of such extracts into mice of the C3H line, known to have been essentially free from spontaneous leukemia. The use of newborn animals for inoculation of the extracts proved to be essential in this work, since it soon became evident that the susceptibility of the mouse to experimental infection with the leukemic agent is for all practical purposes limited to the first few hours after birth. After successful inoculation with the leukemic extracts, the mice that had received the injections remained, at first, in good health, but "spontaneous" leukemia developed after they reached middle age, i. e., after a latency of at least several months, and in some instances after an interval exceeding a year or a year and a half.

When, in more recent experiments, Gross³ passed the Ak leukemic extracts through porcelain filter candles (Selas), having a very fine porosity (O3), and injected the resulting filtrate into newborn C3H mice, the results were surprising: while 9 of the 84 inoculated animals died from typical leukemia, in 15 others bilateral salivary gland carcinomas developed, unexpectedly, instead of leukemia, arising in multiple foci in the parotid glands. In some of these mice metastatic carcinomas developed in the axillary and inguinal pits. There was, however, in these 15 animals, no general involvement of the lymph nodes, no infiltration of liver, spleen, or other organs, and no pathological changes in either the bone marrow or the

peripheral blood picture. The average age of mice in which the salivary gland carcinomas developed was 3.3 months, far below that at which spontaneous leukemia usually develops.

Although salivary gland tumors have been observed, on very rare occasions, to develop spontaneously in old mice of certain inbred strains, such as strain C or A, they have not been recorded in either mice of the C3H line (serving as test animals for inoculations), or those of the Ak line; yet mice of the Ak line served as donors of the leukemic organs for which extracts had been prepared for inoculation of the C3H mice. It is conceivable, therefore, that mice of the Ak line carry two different oncogenic agents. One of these agents would be potentially capable of causing the development of leukemia and the other that of salivary gland carcinomas. Since salivary gland tumors do not develop spontaneously in mice of the Ak line, whereas leukemia is common in these animals, it would follow either that mice of the Ak line are not susceptible to the pathogenic action of the salivary tumor agent or that an interference phenomenon may be responsible for the apparent suppression of the pathogenic potentiality of the salivary gland tumor agent by the simultaneous presence of the leukemic agent. In any event, both agents could be experimentally extracted from leukemic organs of Ak mice. They could be separated by ultracentrifugation at $144,000 \times g$, the carcinoma agent remaining mainly in the supernate, or by passing the extracts through filter candles of very fine porosity, apparently retaining at least some of the leukemic agent, but passing freely the smaller salivary gland tumor agent. It also appears that the salivary gland tumor agent is slightly more resistant to high temperature than the leukemic agent, heating to 68 C and 65 C for 30 minutes, respectively, being required for inactivation. Both agents were found in normal, healthy Ak embryos, suggesting thereby that both are being transmitted, in mice of the Ak line, from one generation to another.

The implications of these findings for human pathology could be of considerable interest. Should leukemia be caused by a transmissible agent not only in chickens and mice but also in man, the possibility would have to be considered that in man also the leukemic agent may be accompanied by another oncogenic agent, potentially capable of causing some forms of sarcoma or carcinoma. As in mice, in man also such oncogenic agents could be transmitted, in their inactive form, coupled together and not causing any symptoms, from one generation to another. An interference phenomenon might be responsible for the apparent latency of either, or both, agents in most of the carrier-hosts. Occasionally, however, prompted perhaps by an accidental segregation of such agents, an activation of either agent may now and then occur, resulting in the development of leukemia in some, and carcinoma or sarcoma in other members of the same family tree. This hypothesis³ may explain clinical observations suggesting that in families of patients with leukemia, malignant tumors, such as carcinoma or sarcoma, are commoner than in the average population.

In any event, the discovery of another malignant tumor caused by a filtrable, thermolabile, and transmissible agent adds one more tumor to the impressively growing list of virus-caused neoplasms.

1. Gross, L.: Biological Properties of Mouse Leukemia Agent, *Cancer* 6: 153-158 (Jan.) 1953.

2. Transmissible Leukemia in Mice, editorial, *J. A. M. A.* 148: 746 (March 1) 1952.

3. Gross, L.: Filterable Agent, Recovered from Ak Leukemic Extracts, Causing Salivary Gland Carcinomas in C3H Mice, *Proc. Soc. Exper. Biol. & Med.* 83: 414-421 (June) 1953.

Proceedings of the
Forty-Ninth Annual Congress on Medical Education
and Licensure



Held at the
Palmer House, Chicago
Feb. 8-10, 1953

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FORTY-NINTH

Annual Congress on Medical Education and Licensure

HELD AT THE PALMER HOUSE, CHICAGO, FEBRUARY 8-10, 1953

I. COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

The Annual Congress on Medical Education and Licensure of the American Medical Association convened at 10:00 a. m. in the Palmer House, Chicago, February 9. The Congress was opened by Dr. Herman G. Weiskotten.

MONDAY MORNING SESSION, FEBRUARY 9, 1953

Herman G. Weiskotten, M.D., Presiding

EXPERIMENTATION IN MEDICAL EDUCATION

Herman G. Weiskotten, M.D., Skaneateles, N. Y.

When the Council on Medical Education was established by the American Medical Association in 1904, its function was clearly stated to be the improvement of medical education. That the American Medical Association looked to medical educators to assume leadership in the improvement of medical education is indicated by the membership of the first Council, which was as follows: Arthur D. Bevan, M.D., professor of surgery, Rush Medical College, chairman; W. T. Councilman, M.D., professor of pathology, Medical School of Harvard University; Charles H. Frazier, M.D., professor of surgery, University of Pennsylvania School of Medicine; Victor C. Vaughan, M.D., dean, University of Michigan School of Medicine; and J. A. Witherspoon, M.D., professor of medicine, Vanderbilt University School of Medicine.

Immediately after its establishment, the Council initiated the Annual Congress on Medical Education. These congresses have been occasions for reviewing the progress being made in the improvement of medical education. They have provided opportunities for full and free discussion of current problems as well as reports on newer methods of teaching.

EARLY PROBLEMS

Two major problems faced the leaders in medical education during those early years. It had become obvious that a large number of inferior medical schools that offered no promise of satisfactory development should be eliminated. It was equally apparent that if the educational and scientific life of medical schools was to flourish, it would be highly desirable for them, wherever possible, to develop university affiliations and to foster the development of university atmosphere and standards.

One of the first actions taken by the Council to meet these problems was the establishment of a set of educational essentials that schools had to meet in order to be included in the Council's list of approved medical schools. These early essentials contained rather rigid minimum requirements for faculty personnel, curriculum, and

physical facilities. They even went so far as to specify the number of hours to be devoted to the various subjects to be included in the medical curriculum. Similarly rigid standards were adopted by the Association of American Medical Colleges. Although the educational hazards inherent in the establishment of such rigid requirements were recognized at the time they were formulated, they were deemed temporarily necessary as a means of eliminating a large number of hopelessly inferior proprietary medical schools then flourishing throughout the country.

The application of these early standards, together with the impact of the Flexner Report, and the cooperation of most of the state boards of medical licensure were successful in eliminating most of the substandard schools. A few with limited regional recognition continued to function, however, until very recently. Today we can point with pride to the fact that there is not a single unapproved medical school operating in the United States.

The signal success of these initial accreditation programs did not render them immune to criticism. Medical education in this country was accused of having become routine and mechanical. This criticism is still made both in this country and abroad by those who have not followed closely the subsequent development of our medical schools. The charge is sometimes made that the accreditation programs have stultified rather than encouraged educational experimentation and improvement in medical education.

Actually nothing could be farther from the truth. As soon as it was considered safe to do so, the detailed rigidity of all requirements was eliminated and schools were encouraged to develop their own individual programs as long as they provided an over-all satisfactory program of undergraduate medical education.

At the same time advancements in the field of medicine as well as advancement in educational methods have placed on the schools ever increasing responsibilities in their efforts to provide their students with a sound foundation for careers in medicine.

In the early years the major problem of the schools was to develop basic science departments staffed with competent, fulltime scientists devoted to teaching and to the development of new knowledge in their special fields.

Chairman, Council on Medical Education and Hospitals, American Medical Association.

Well-equipped laboratories had to be provided not only for undergraduate teaching but also for graduate training in these fields and for the research of the teaching staffs.

Efforts were thus made to apply to the undergraduate medical course the sound fundamental principle of education that the best education is self-education and that the responsibility of a medical school is to provide the facilities, stimulus, and guidance for students to educate themselves. The close supervision necessary to the successful operation of such programs required great increase in the number of fulltime teachers, thus adding to the problem of faculty recruitment and further increasing the budgetary requirements of the schools.

Nevertheless the successful application of these fundamental principles of education in the basic medical science departments led to experimental efforts to apply them in the teaching programs of the clinical departments. It was obvious that to implement such programs it would be necessary to revamp completely the curriculum of the clinical years. Their introduction required the use of the hospital wards and outpatient clinics as laboratories for the teaching of clinical medicine.

The schools were thus faced with the necessity of securing satisfactory clinical facilities that would be under their control. Most important of all, it was necessary to secure a sufficient number of competent teachers who would devote the increased amounts of time required by this type of teaching as well as maintain high standards of medical services in their various departments. Furthermore, such competent teachers interested in academic careers sought opportunities for research as well as teaching. These were the problems incident to the development of clinical clerkships.

As these programs were finally developed, emphasis was placed on the student acquiring an understanding of the fundamental principles of the basic medical sciences and their application in the field of clinical medicine. Emphasis was placed on attitudes, habits of thought and work, and the proper approach to problems in medicine rather than on memorizing from textbooks and lectures innumerable facts relating to all of the various phases of medicine. In other words efforts were made to provide for the student a training for the practice of scientific rather than empirical medicine.

These developments based on years of experimentation have tended to individualize medical education to an extent far beyond that attained by any other professional schools. The problems involved have been enormous and still remain to be satisfactorily solved by quite a number of our medical schools. Incidentally, they have required relatively enormous increases in the budgets of the schools but have assured the American public of standards of medical care not otherwise obtainable.

NEW PROBLEMS AND EXPERIMENTATION

Having developed such improved teaching methods in both the basic medical science and clinical departments, the schools were faced with new and complicated problems. Perhaps the most fundamental educational problem was how to integrate the programs of the various departments to best qualify a student to initiate his career in medicine. Solutions to this problem have required a

meeting of the minds of the teachers in the various departments of a school and the recognition of common broad objectives of the undergraduate curriculum as an integrated whole. They have been the basis for much experimentation by individual schools. There is undoubtedly no single solution that would be applicable to all of the schools. It is the responsibility of the faculty of each school to continually reevaluate its curriculum and to provide in accordance with its own particular setting a sound and well integrated educational program. In this connection may I repeat a statement that I made before this congress two years ago. No successful educational program can be dictated by our Council, by any outside agency, or even by the administration of a medical school. It can be no better than the competence and interest of those directly responsible for its conduct.

Each year this program of integration of the undergraduate program becomes more complicated and more difficult. Continuing advances in the various fields of medicine present problems of expanding the content of the existing overcrowded curriculums of the schools and of adding new subject matter.

Frequently such new subject matter has not appeared to fit readily into the programs of existing departments, and attempts have been made to present it to the students in didactic form as separate courses detached and isolated from the preexisting curriculum content. Such attempts have not been too successful, and the schools have been faced with the problem of attempting to incorporate such new subject material into the individual experiences of the student in the integrated programs of the basic medical science and clinical departments.

Here again the solutions of these problems have required not only continued reevaluation of the course content of the various departments but also continued experimentation as to how in a given school important new subject matter and viewpoints can be best integrated into the basic training of the student.

This seems to be especially true when the new subject matter is considered to be outside the fields of the basic medical sciences. For example, for years now there has been a growing appreciation that there are a host of psychological, sociological, economic, and environmental factors that must be taken into consideration and dealt with by a physician if he is to meet his responsibilities in the prevention, diagnosis, and treatment of disease in his patients. Just how to prepare a student to appreciate these factors and to be prepared to deal with them has presented a real problem and has given rise to considerable experimentation for more than 20 years. The fact that the development of our educational programs has been based largely on the natural sciences and that we have required some preliminary training in these sciences for admission to our medical schools adds to the difficulty of incorporating these newer concepts into the undergraduate curriculum. Here again, as has been the case in training students in the natural sciences, the question arises as to how much of the social sciences we should attempt to include in the training of the undergraduate medical student and further how it can be best integrated into his individual experiences. Certainly we should find some way of developing in the student proper viewpoints and attitudes toward these problems. At the same time

we must accomplish this without any interference with a sound training of the student in medicine as it has been developed on the basis of the natural sciences. There are many who believe that just as a student is required to have some preliminary training in the natural sciences before entering upon the study of medicine he should also have similar preliminary training in the social sciences if he is expected to apply them in his medical training.

Other experiments are being attempted in an effort to influence the nature of practice students will adopt for their future careers in medicine. For example, some schools have attempted to incorporate in their undergraduate curriculums influences and experiences that will result in a larger percentage of their graduates entering the field of general medicine rather than limiting their practice to a specialty.

The recognition of all of these and other problems by the medical schools together with the experiments that are being undertaken to find solutions of them offer great promise for the continued improvement of medical education. Although for a period the effect of the depression and the war on the medical schools tended to retard or block extensive experimentation, there are many signs that we have entered a more fruitful era of experimentation if medical education is not again dislocated by another emergency.

At the present time many experiments are currently in progress. To cite a few of the schools that are conducting experiments in various important phases of medical education mention may be made of Boston University, Bowman-Gray School of Medicine of Wake Forest College, University of Colorado, Cornell University, University of Pennsylvania, University of Washington, and Western Reserve University.

While experimentation is to be welcomed and encouraged, it should be pointed out that in undertaking experiments schools should be cautious that they lose none of the progress that has been made in placing medical education on a sound educational, scientific, and individual basis. Furthermore it should be realized that it takes time to develop an intelligently designed experiment. To develop a successful experiment a school must first analyze its objectives and resources. If this is done, almost any experiment based on sound educational principles and carried out by a competent and enthusiastic faculty offers promise of serving as a contribution to the improvement of medical education.

It should be kept in mind, however, that it may be extremely difficult to evaluate the results of experiments in medical education. Such evaluation may require continuing observation of their influence on students for several years after graduation.

Finally, just as individual faculty members are continually conducting research for the advancement of medical science in their particular fields, as faculty groups they should continually be conducting experiments in the field of medical education—for this is the primary responsibility of our medical schools and must always be recognized as such.

PROBLEMS OF MEDICAL EDUCATION

IMPRESSIONS GAINED FROM THE PRESIDENT'S COMMISSION ON THE HEALTH NEEDS OF THE NATION

Joseph C. Hinsey, Ph.D., New York, N. Y.

The main topics covered in the final report of the President's Commission on the Health Needs of the Nation are: Organization, Research, Financing of Research, Health Services, Special Health Problems and Health Problems of Special Population Groups.

The report consists of five volumes: I, Findings and Recommendations;¹ II, America's Health Status, Needs and Resources; III, America's Health Status, Needs and Resources—A Statistical Appendix; IV, Financing a Health Program for America; and V, The People Speak. These volumes are based upon some 30 panels held on special topics in Washington in which about 400 experts from different walks of life participated, upon eight one-day hearings held in cities over the country, and a vast amount of data collected by the staff.

I don't need to emphasize that if we were to have given the problem assigned exhaustive and full treatment, a period much longer than a year would have been required. There are weaknesses and shortcomings, and we on the commission would be the first to admit it.

I wish to pay tribute to the work of our chairman, Dr. Paul B. Magnuson, and our vice-chairman, Chester I. Barnard, for their leadership. This group of 15 people of different backgrounds worked together in the spirit of fair play and without acrimony, and ended the year's work on a friendly basis in spite of the fact that there was not a unanimity of opinion on the many different recommendations. This report was made possible by the generous and wholehearted participation of many people.

I cannot condense this material in order to give an adequate review. It is difficult for me to dissociate impressions I received as a member of the Committee on the Survey of Medical Education from those obtained from service on the President's commission. As a matter of fact, there will be little, if anything new in what I have to say that is not known to medical educators.

Medical education in a broad sense means the educational activities of every type carried on in a medical school or center. As Dr. John E. Deitrick has described so well in his work with our Survey on Medical Education,² this includes many activities in addition to those immediately related to the education of undergraduate medical students. All of these activities, such as the education of nurses, dentists and all types of paramedical personnel, are of great importance in relation to health, and thus to the physician in training. However, I wish to focus upon just a few of those problems most intimately related to the undergraduate medical training in our medical schools.

Dean, Cornell University Medical College.

1. "Building America's Health, Findings and Recommendations." Vol. 1, A Report to the President by the President's Commission on the Health Needs of the Nation.

2. "Medical Education in the United States at the Mid-Century," John E. Deitrick and others. McGraw-Hill Book Co., Inc. (to be published in 1953).

Each of our medical schools consists of three essential elements: (1) the students, (2) the staff, and (3) the facilities such as the laboratories, teaching hospitals and their clinical material, the library, housing for students and staff, and the community in which the school is located. Provided individuals are chosen who possess fine character and high ideals and the facilities are adequate, our graduates will finish four years of educational experience as good doctors basically prepared to continue their educational experience.

IS PERSONNEL NEEDED?

On page 11, Volume 1, these statements are made: "The cry for more personnel was sounded at almost every panel and at every public hearing held by the commission. From the big cities and from the forks of the creek the people asked for more physicians, nurses, dentists, public health personnel and auxiliary medical workers.

"We see no prospect for a great increase in the number of health workers in the near future. The lengthening of the training period of our health professions, an indispensable element in raising the quality of medical care, makes this expansion process a slow one. We cannot appropriate today and have more health personnel tomorrow. The planning of a medical school, the building of faculty and facilities, can hardly be completed in less than four years. Thus, at least eight years elapse from the beginning of planning until the first students graduate.

"No matter what is done, we can expect continuing shortages in the next few years and must plan with full knowledge of this situation. It is, therefore, essential that we give greater attention to the most efficient utilization of the existing supply as well as to means of increasing it."

Contrary to some newspaper accounts, our commission did not state specifically the needs for additional physicians in the future. On page 13, this statement is made: "We find, therefore, that the expected supply of physicians in 1960 will fall far short of the number needed to meet the need of the American people for broadened medical services." There are two keywords in this statement, (1) *need*, which must be contrasted with demand, and (2) *broadened*, which contemplates a far more comprehensive service for all of our people.

We should not lose sight of this statement: "It is impossible to pinpoint the exact number of physicians we will be short in any future year. At several panel sessions, we heard proponents of specific shortages present figures and advocate their viewpoints with a great air of positiveness. The changing patterns of medical practice, fluctuating demand and variations in the incidence of disease should temper the positiveness of such estimates."

Today we have about 212,000 physicians in this country including those who have retired. By 1960, when our total population will be about 171 million, it has been calculated that we will have 227,000 physicians. The staff of our commission has calculated the needs in 1960 based upon six premises:

Premise 1—That in 1960 we should have the same over-all physician-population ratio as in 1940; 133 phy-

sicians for 100,000 people. This would require 227,000 physicians, which is the anticipated supply.

Premise 2—That in 1960 we should have the same physician-population ratio as in 1949; 135 physicians for 100,000 people. This would require a total of 231,000.

Premise 3—That in 1960 we should have the same civilian-physician-population ratio as in 1949, meet military needs for 5 million mobilization level and expand industrial, public health, medical school faculty and civilian defense personnel as advocated by Dr. Rusk's Health Resources Advisory Committee of the Office of Defense Mobilization. This would require 244,000.

Premise 4—That in 1960, we would need enough physicians to give service to civilians at a rate approximating that given by a comprehensive prepayment service today, provide present levels of interns and resident service in hospitals, meet standards for public health, industrial medical service, staff mental and tuberculosis hospitals at accepted standards, meet staffing standards for medical schools and meet the requirements of the Armed Forces at present levels. This would require 256,000 physicians.

Premise 5—To bring all lower regions of the country to the national average ratio of 131 physicians per 100,000 civilian population (excluding only physicians in Armed Forces) to serve the increased population at that same average level and to meet the needs of the Armed Forces at present levels. This would require 249,000 physicians.

Premise 6—To provide for military needs and to bring the whole civilian population up to 166 physicians per 100,000 as in New England and Central Atlantic States. This would require 292,000.

In our medical schools, there has been an increase in enrollment and we graduated 6,100 in 1952. This year it will total about 6,400, and by 1960 we should be turning out 7,000 graduate physicians. This will make possible the maintenance of the 1949 over-all physician-population ratio for the expected 1960 population.

However, if we have continued mobilization, our civilians will have fewer physicians than in 1949. On page 12 we stated: "Because physicians make fewer home calls and patients make more office calls than formerly, and also because of technical advances, we have made gains in the availability of physicians' services. But the demand still far outruns supply."

Our two great problems ahead in medical manpower are those attendant to getting better distribution of our medical personnel and of meeting the requirements that will come when demand catches up with need for comprehensive medical service. Looking ahead, political pressures and public opinion will make expansion necessary, as has already been evident in a number of our medical schools. As medical educators, we must be on guard to see that these pressures do not deteriorate standards. In New York State, we have serving on the intern and residency staff of many of our hospitals more than 600 graduates of foreign schools that are below our standards for approval. The educational standards for

the internship have been ignored for years. If expansions in our own medical schools exceed the facilities, standards inevitably will deteriorate with a reversion to the techniques of mass education that were discarded years ago.

When I heard expressions in discussions in the commission that the only way to meet the problems of distribution and vacancies in many types of governmental service was to create an over-supply with lip service to standards, I responded with the point of view that is expressed in the statement on page 15: "The high standards of instruction in our medical schools must be maintained because the American people have demanded that the present-day physician undergo the most intensive training in classrooms, laboratories and hospitals, before being allowed to assume responsibility for the life and health of his fellow men."

In my opinion, we must train more physicians and do it soundly. The number of candidates applying for medical school has been decreasing for the past three years.

TABLE I.—A Comparison of the Number of Applicants for the Past Five Years

Freshman Year	Number of Applications	Number of Individuals	Applications per Individual
1947-48	56,279	18,829	3.0
1948-49	81,662	24,242	3.4
1949-50	88,244	24,434	3.6
1950-51	81,931	22,279	3.7
1951-52	70,678	19,920	3.5
1952-53	56,319	16,763	3.4

* Study of Applicants for Admission to United States Medical Colleges Entering in 1952-53. Preliminary Report, by John M. Stalnaker, director of studies, Association of American Medical Colleges.

TABLE II

	1951-52	1952-53	Drop from '51-'52 to '52-'53
Total Individual Applicants.....	19,920	16,763	16%
Total Individuals Re-applying from Last Year	5,989	5,215	13%
Total New Applicants.....	13,931	11,548	17%
Per Cent Accepted from Re-applying Group	30%	33%	
Per Cent Accepted from New Group	42%	50%	

There was a 31 per cent drop in applicants for classes of 1949-50 to 1952-53.

The decrease amounted to 31% (see tables I and II). There are a number of barriers that keep candidates from gaining admission. First of all, the quality of educational preparation is inadequate. "For many states, providing a higher quality of secondary and college education is another important element in the process of removing barriers to medical education." This is particularly true in areas where there is greater need for medical care.

Secondly, there is the financial barrier to those of limited financial means. It is not only the tuition and other costs directly related to education, but the high living cost which must be defrayed during a long period when there is little or no income.

Scholarships will help, but they are totally inadequate. Many of us have said that any young person who wants a medical education badly enough still can get it. All of us know that there are some of our medical schools where ability to finance enters into favorable consideration for admission. We have no data which tell us how many able young people who are potential candidates for medicine are lost because they never start.

Third, the barrier created by the limited capacity of our medical schools.

Fourth, the limitations produced by geographic barriers. I cannot overemphasize the importance of this, page 13: "Geographic restrictions in medical education significantly affect the distribution of physicians, since graduates tend to return to their home areas to practice." Weiskotten and Altenderfer³ have shown that: "The data here presented suggest that, other things being equal, prior residence is the most potent single factor in determining the ultimate place of practice of the graduates of our medical colleges."

One-third of our states do not have four-year medical schools. In 35 of our medical schools, less than 15% of the first-year class comes from without the state. Not only is the distribution of physicians affected, but the quality of people entering the profession is influenced. Selections may have to be made on the basis of residence within a county in the state because of intrastate quotas. This means that the best qualified complement of students is not always obtained by a state.

In those states that are financially unable to support a medical school, participation in an interstate regional plan may be of great help. States that are financially able to support a medical school should be encouraged to develop them on a sound basis. I can appreciate the political reasons for these geographic restrictions, but I hope they can be reduced, if not abolished, in the not too distant future. Those institutions that are still free to do so should give most careful consideration to applicants from areas poorly supplied by physicians. Likewise, every effort should be made to continue to improve the facilities for medical care in these areas.

The commission appropriately gave considerable attention to the problem of the "raw material"—students going into practice—because in the long run they are the people who, as they enter professional activities, will determine the quality of medical care.

FACULTY SHORTAGES

One effect of the financial plights of our medical schools results in our "inability to pay salaries adequate to attract and hold a sufficient number of high-grade teachers, with the result that many teaching positions are vacant and promising teachers are continually being lost." Two years ago, I⁴ attempted an analysis of this need for the basic medical sciences.

Diehl, West and Barclay⁵ concluded that: "At present mobilization levels, the impacts of the 'doctor-draft' law are not severe enough to seriously disrupt medical education," but there have been certain developments since that time to alert medical educators to potential dangers and possible deterioration. In a second paper,⁶ they presented current data gathered by the Office of Defense Mobilization and the Association of American Medical

3. Weiskotten, H. G., and Altenderfer, M. E.: "Trends in Medical Practice," Journ. Med. Edu., Vol. 27, No. 5, Part 2, pp. 3-41, 1952.

4. Hinsey, J. C.: "Maintenance of a Continuing Supply of New Faculty Members," Journ. Assn. Amer. Med. Coll., Vol. 25, No. 6, pp. 379-395, 1950.

5. Diehl, H. S.; West, M. D., and Barclay, R. W.: "Medical School Faculties in the National Emergency," Journ. Med. Edu., Vol. 27, pp. 233-243, 1952.

6. Diehl, H. S.; West, M. D., and Barclay, R. W.: "Staffing Patterns at Four-Year Medical Schools," Journ. Med. Edu., Vol. 27, pp. 309-315, 1952.

Colleges that show the wide variation in faculty-student ratios and in the teaching and research time per student in the nation's medical schools.

Our medical schools are the factories that will produce the medical profession for the civilian population and the military forces for years to come. There must be an over-all appreciation of this. Our commission stated: "Protection of medical and dental school faculties is necessary in order that the continuing flow of graduates into the professions may be safeguarded."

In rewriting of Public Law No. 779, if it is to be continued, it must be modified so as to recognize (1) that our medical schools must have teachers who are specially trained for their respective fields, (2) that the maintenance of the residency program is essential for high quality medical education and service and (3) that there are many individuals who served in a civilian capacity during World War II in a most effective manner, not by their own choice but because they were declared essential by the Procurement and Assignment Service.

Although organized medicine has contributed greatly to medical education and has rendered generous support to this worthy cause through the American Medical Education Foundation, the fact remains that organized medicine has tended to make more difficult the recruiting of qualified people to the medical faculties. Recently the president of a county medical society made a plea for its members to contribute to a fund to aid young practicing physicians; one of the fund's purposes was to keep them from full-time service on medical college faculties. A number of deans with whom I have talked have complained about their inability to attract certain men because of restrictions placed upon geographic full-time by organized medicine. We recognize that income ceilings must be worked out and abuses prevented, but let us not expect our full-time faculty men to make financial sacrifices that will interfere with faculty recruitment.

I know of able men who have left academic life because of narrow interpretations of what constitutes a consultation practice. The commission has stated (Vol. I page 11): "However, many of us who take for granted the tremendous victories won by medical science against the deadliest killers of only a generation ago often overlook one crucial fact—all of these great advances would have been impossible without our modern system of education for physicians and other health personnel." If this system of education is to remain strong, it must command the most able faculty personnel. The medical profession stands to gain the most from this, and I make a plea for greater understanding between the medical schools and the medical profession.

In many of the discussions of our commission, increased responsibilities were suggested again and again for our medical schools. Many of these involved extension of medical service to the community. A typical example is illustrated in the following statement: "Regionalization in the health field means bringing together the health resources of an area and continuing their efforts for the delivery of better service. Really good care can emerge in a community only when there is organized cooperation among all those concerned—physicians, hospitals, health departments and (if the region has one) the medical school." Some of these plans

involve sending staff members out for some distance from the medical school to conduct teaching exercises.

The community may make service demands on a medical school and center that are far greater than the teaching requirements and facilities, both staff and otherwise, for adequate handling. In addition, the need for greater numbers of dentists, nurses and auxiliary or paramedical personnel in many areas creates additional demands upon the medical school and its faculty.

There was much discussion of the medical schools' function in meeting unfilled needs. One of the most common suggestions was to include more time in the curriculum for indoctrination for special fields, more lectures, separate departments for general practice, etc.

MEDICAL SCHOOL FINANCE

Sixty-six per cent of the \$180 million spent for medical research last year came from governmental sources. My comments here will be limited to the following paragraph: "Many project grants have adversely affected the financial structure of medical schools because these grants do not include sufficient funds to cover the direct administrative costs of the projects. Grants for the direct costs of research have resulted in more people and greater amounts of space devoted to research.

"To service these people and this space costs money—the indirect costs of research. It is estimated that these indirect costs range from 12 to 45% of the research grant totals. This has led to the disturbing paradox of increased support for research draining an ever-increasing amount from the limited operating funds of the schools. Bleeding of the school's fluid funds dilutes medical education both financially and through overextending the capacity of its faculties. It is a problem urgently requiring corrective action by both governmental and private sponsors of research."

Backed with the federal tax dollar, the National Institutes have a staff of 750 full-time scientists and are now making attractive offers to some of our most able young teachers to join a staff for the new Clinical Center. With the Armed Forces drafting them on one side and this constant drain to the Public Health Service and industry on the other, it is no wonder that medical school deans are about to the "end of the rope" and "ready for the river." It is a long road and some day the public will realize about the "goose that laid the golden egg."

All of these stresses emphasize the necessity for maintaining balance in our medical school programs. The dean must assume it as his responsibility to curb excesses, to see that the students get a fair break, to maintain service functions within bounds that can be paid for and are necessary, to stimulate and support research, but to keep it from assuming improper proportions in the total operations.

In some public supported institutions his role is a difficult one. Caught between the legislators, the various medical and health organizations, special associations, pressure and care groups, he and his faculty may not be able to determine the proper educational policy. We talk about possible control by the federal government, but many deans would prefer the kind of control the federal government has shown (and we do not want that) to some of the other groups mentioned above.

During the academic year 1951-52, the basic operating expenses of our medical schools totalled \$76 million. An additional \$34 million for medical research came from governmental agencies, private foundations and industry. The basic operating expense is just about double that of 10 years ago, and yet our commission was "alarmed at the progressively severe financial situation of our medical education system which was found characterized by:

"1. Deterioration of the physical plant, with insufficient funds for needed modernization.

"2. Inability to pay salaries to attract and hold a sufficient number of high-grade teachers, with the result that many teaching positions are vacant and promising teachers continually are being lost.

"3. Inability to establish and build teaching programs in areas of recent progress such as psychiatry, rehabilitation, biophysics and the several aspects of preventive medicine.

"4. Inability to expand enrollment to meet the growing need, because such expansion without adequate financial means would lead to lower standards of professional education.

"5. Increasingly high tuition charges and rising cost of living for students which, with inadequate scholarship funds, means that undertaking the study of medicine is increasingly more difficult for young people with limited financial resources. A similar problem is encountered in residency and other postgraduate training. This situation not only denies educational opportunity to many qualified candidates but, perhaps more important, endangers the future caliber of the profession by restricting the reservoir from which physicians may come.

"6. Reliance on research funds to support teaching personnel, so that the primary educational objective is threatened."

In our worries over the financial plight of our medical schools, we have great concern over the financial difficulties of our teaching hospitals, many of which are compensated inadequately for the services they render. The \$64 question is what can be done about it? The Commission on Financing Higher Education has suggested some solutions.⁷

Many of us have tried to reduce overhead and to bring about economies. Tuition charges have risen in many instances just as far as they should go. We can try to get a greater return for our service contributions. We can reduce our activities. We can operate our medical schools from the return of group practice. Organized medicine and other groups have done everything in their power in some areas to prevent teaching services from collecting insurance fees for services rendered. Massachusetts General Hospital has been conducting a real attempt to get its just compensation from the Blue Shield program there. The teaching services on some of our hospitals in New York have been unable to solve the riddle under existing law.

Through the American Medical Education Foundation and the National Fund for Medical Education, some

7. Millet, John D.: "Financing Higher Education in the United States," Columbia University Press, New York, 1952.

real advances have been made in private support. Our commission stated: "Although such private efforts as that of the National Fund for Medical Education and the American Medical Education Foundation are to be heartily commended there is serious doubt as to whether they will be able to raise the big sums needed."

In his excellent review of "The Financial Status of Medical Education" prepared for the Executive Council of the Association of American Medical Colleges,⁸ Darley emphasized a point well expressed by the commission: that before enrollments could be increased in our medical colleges, "the basic structures of the existing schools and their educational programs must be properly strengthened through more adequate financing."

The commission recommended federal aid to health education. Most of you know of the role I played in endeavoring to secure a bipartisan bill for a similar purpose during the last few years. We thought we had all the safeguards in, but what happened to the fundamental purpose of the bill when the politicians started in on amendments is a matter of record.

You are all acquainted with the reduction in funds for the educational program of the Veterans Administration this past year. Where would we stop—osteopathic, chiropractic schools, schools for all types of auxiliary personnel? Why not have the federal government in all types of higher education?

I wrote a footnote, in which I stated: "While I can support federal aid for buildings and facilities and their rehabilitation for education in the health services along Hill-Burton lines, I have doubts about the advisability of federal aid in health education as recommended in this report with the possible exception of that in graduate schools of public health."

In looking ahead, top priority should be given to high quality of students and staff, highest standards in their performance and proper balance in our over-all programs. To attain this, adequate funds would be of great help. In our undergraduate programs, we should give greater emphasis to the significance of organization in the delivery of medical care, to the importance and need for comprehensive or continuing health care and to the social and psychological factors in health and disease.

Looking forward to the almost certain development of prepayment insurance for ambulant comprehensive care as well as for hospital care, we must continue to interest ourselves with the impact of this upon our teaching material, both for undergraduates and graduates. In the report of the Committee on Graduate Training in Surgery of the Society of University Surgeons, Bricker, Gerbode, and Habif⁹ have dealt effectively with this problem.

In closing, I wish to make a strong plea for greater cooperation between our medical schools and teaching institutions and organized medicine in meeting the problems we have discussed here. If we pull our oars together, we can move forward. If not, many of us may end up bankrupt and in the hands of the government.

8. Darley, Ward: "The Financial Status of Medical Education," *Journ. Med. Edu.*, Vol. 28, pp. 11-20, 1953.

9. Bricker, E. M.; Gerbode, Frank, and Habif, David: "The Effect of Health Insurance Programs in Residency Training in Surgery," *Surgery*, Vol. 32, No. 2, pp. 333-340, 1952.

PRIVATE BEDS IN MEDICAL TEACHING

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Teaching hospitals face today the large-scale use of private beds in their programs. The pressure is economic and unavoidable. Twenty years ago a public ward bed cost the patient \$4 a day and cost the hospital not much more. Many a privately endowed teaching center had over 200 public ward beds divided among the teaching services. Today a ward bed costs the hospital between \$15 and \$20 a day. If the endowed hospital assumes the cost of as much as half the patient's bill, 200 teaching ward beds cost the hospital well over \$600,000 a year—the interest on a 13 million dollar endowment. Most hospitals do not have such financial resources. The few that have, because of research and other commitments, do not want to expend all their funds on ward beds. With the growth of private hospitalization insurance, they are finding that they do not have to.

More and more insured patients demand private medical care. They enter the ward bed from the private physician's office, and they return to the office for follow-up. Hospitals that continue "free dispensaries" find little room to hospitalize their sick under the same roof and the care of the house staff. A dispensary without ward beds has no educational role. It can no longer provide vital continuity of patient observation.

With the shift to greater use of private beds, the practicing physician again resumes his ancient role in medical education. The patients are his, not those of his service chief, of the educational director, or of the medical school department head. The educational result is directly determined by his teaching skills, by his philosophy as to proper relations of old and young in medicine, and by his wisdom in appraising his freedom to act independently under pressures. The full-time staff member, the professional educator, at best can only help.

Therefore, this report is prepared for the practicing physician who wants background information on modern processes and standards of clinical education to strengthen teaching in his own hospital. It is not intended to provide the complete background. Taken as such, it will surely fail, for it represents a first and partial study. It poses many questions whose answers I do not know. It is based on about five years' experience in a predominantly private bed teaching hospital, in which I was a department head, more than five years of teaching at predominantly public ward hospitals, and many periods of observation of various types of hospitals over the country. In many such institutions the problems are being given vigorous thought and action. In the subsequent discussion some arbitrarily selected centers are cited, not as having uniformly workable solutions but as a profitable starting point for inquiry and visit. Many others that are not cited are as important in their contributions.

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THE PROBLEMS

"Private beds in teaching" has been the subject of many a discussion at many a recent meeting of medical educators. Sometimes it is presented as a comparatively easy shift in patient material, but this is not always the case. True, a few hospitals, through concerted effort on the part of the attending staff, have successfully made the shift. They compete successfully for a high caliber house staff in this era of large discrepancies between number of positions and number of candidates. Other hospitals, sometimes as rich in facilities and in a respected senior staff, have not been so successful, despite elaborate printed programs, rising stipends, and full-time department heads.

Before the economic impact of World War II, the public wards and the dispensaries were the usual domain of clinical teachers. When chosen for his ability in and love of teaching, the ward clinician has always held high honor in his hospital regardless of the size or make-up of his private practice. With the exception of a very few centers, medical students were rarely assigned to private pavilions or semiprivate wards. When they were, they were usually paid an extern stipend as a recompense for lack of educational function.

The old hierarchical distinction between the private and ward house staff has been familiar in many a hospital dining room. Competition for the ward jobs was intense. The happy winners began by working 18 hours a day for board, room, and laundry. The private jobs in the same hospital often were held by men waiting, and saving, for a ward opportunity.

By and large, the public wards of our teaching hospitals have set a very high educational standard (though those indifferently staffed have sometimes fallen far below the few old-time private services that took teaching as their business). In my own experience it has been the exceptional graduate of the unusual private service who can match the good public ward service graduate in early clinical maturity, in habitual application of scientific knowledge, and in critique. Although not so sharply distinguishable in his forties as in his thirties (the able man, no matter where trained, inevitably passes any colleague who relaxes his effort), the ward-trained physician's familiarity with independent action under supervision, in addition to his technical skills, seems to have given him this initial lead and the habit of continued self-education.

The graduate of a pre-World War II senior residency has sometimes found himself prepared to undertake far more serious problems than his first private patients might have wished him to assume. Though lack of opportunity to take advantage of his training was perhaps briefly troublesome for the young physician's ego, few of his patients suffered purely by reason of his intensive hospital training for it often gave him experience for which physicians of previous generations had to wait many years in apprenticeships, and let him grow as fast as intellect and character permitted.

Many elements of the apprenticeship have survived in the public ward system in a broadened form consistent with the impact of microbiology, physics, chemistry, and psychodynamics on clinical practice. The medical stu-

dent, released from the lecture room seat, became an apprentice of the intern at the bedside and in the clinical laboratory in his third and fourth years; the intern became the apprentice of the assistant resident. These younger residents, no longer bound to a single man in practice, served successively as apprentices of several men of diverse scientific and clinical skills.

The keynote in this type of residency was graded responsibility. At every level (medical student to senior resident), performance was under open appraisal. Those unfit by temperament or ability for further progression as a rule were as readily relieved of responsibility as those who were able were advanced. This has been often true for the attending staff. Hospitals devoted to teaching have effected ward staff changes with far fewer repercussions than are regularly occasioned when a physician's access to a private pavilion is limited or cut off. Ward beds may represent a physician's public service, his study, or his prestige. Private beds represent his livelihood. Independent private practice still fills the majority of private hospital beds in this country. It is, and must be, the core of our discussion. Most patients enter these beds because of the physician's individual standing in their eyes. The educational standing of his hospital is of lesser importance.

Every physician is in competition with at least some of his colleagues as well as others who profess, without formal medical training, to treat the ills of mankind. Often he is in competition with members of his own staff. Competition, in differing form, exists for privately or university-managed group practice. Most of the real and difficult educational problems that face private services stem from these facts. To meet them, factors determining local answers to these questions need evaluation. They vary for each medical center.

For the training of students and interns, the following questions might be asked: 1. What physician-patient and physician-physician relationships determine effectiveness when private patients are the teaching material? 2. Can the private services present a proper range and severity of illness? 3. Can the private service follow-up opportunities provide proper continuity of patient observation?

In training of residents, one might ask: 1. What physician-patient and physician-physician relationships affect the sharing and delegation of clinical responsibility for private patients? 2. How does teaching with private patients modify a physician's attitudes toward the incomplete nature of medical knowledge and the ritualistic aspects of medical practice? 3. In a teaching hospital with a large financial deficit, can the shift to private patients be done without the loss of educational standards? If not, what is the minimum proportion of public ward beds necessary? 4. If a private institution cannot afford this minimum, what determines success or failure of cooperative plans with tax-supported hospitals?

For all levels of teaching, one might ask: What factors have governed and what factors should govern the selection of attending staffs on private teaching services? What can be useful roles of trustees and of universities?

TEACHING OF CLINICAL CLERKS AND INTERNS ON PRIVATE SERVICES

The teaching hospital has been called the conscience of the medical profession, in providing a place in which questions must be asked, may be asked by anyone concerned with patient care, and must be answered if possible.¹ Such an atmosphere cannot but enhance standards of care for patients of any economic status, wealthy to indigent.² Let us, however, examine the patient's schedule for the first three hospital days on an average public ward. Day 1: (afternoon) admission history, physical examination done by intern and (evening) repeated, with routine laboratory work by fourth year clinical clerk. Day 2: (early morning) checked by resident and (mid-morning) checked by attending physician on teaching rounds; (afternoon) two third year clerks arrive and fail to see the patient, who is undergoing roentgenographic studies. Day 3: (morning) third year clerks return to take a history and make a physical examination without looking at the chart; (afternoon) four to eight second year students elicit a halting history and laboriously stare at, feel, thump, and listen to designated body areas. A private patient will not submit to this type of schedule. The ward patient often does so through lack of an alternative.

Where the tact and humanity implicit in the golden rule obtains, the usual teaching exercises, such as bedside rounds, detailed case presentations, checking of physical findings, and amphitheater demonstrations, have been successfully carried out with private patients.³ These courtesies are as follows: 1. Always ask both the patient's and the attending physician's permission. 2. Always tell the patient what to expect. 3. Never discuss details of diagnosis, therapy, or prognosis before the patient unless properly authorized. These rules are as applicable on a ward as on a private pavilion. Though the cost is irrelevant to teaching value at this level, there must be enough patients and with examples of pathological conditions corresponding to the serious pathological lesions the young physician will later encounter.

RANGE OF CLINICAL MATERIAL ON PRIVATE SERVICES

Though some physicians are destined to spend three-quarters of their lives treating patients with minor complaints, students, interns, and residents need as inpatients persons who are really ill. A backlog of hard-thinking experience acquired during youth with the seriously sick is invaluable to a career of sorting major from minor illnesses and to an appreciation of interactions of "organic" with "functional" factors. On some private services the range of disease compares with the best of teaching wards; on others it does not. The reasons for this are varied. A busy physician may find certain new patients hopelessly time-consuming for office schedules. A surgeon may find growth of practice coincident with increasing subspecialization. Each physician has an interest, both financial and human, in securing admission

1. Armstrong, S. H., Jr., and others: Report of the Advisory Committee on Internships to the Council on Medical Education and Hospitals of the American Medical Association, *J. A. M. A.* 151: 499-510 (Feb. 7) 1953.

2. Gregg, A.: On Medical Education, *Chinese M. J.* 64: 145-148 (May-June) 1946.

3. Halsted, J. A.: The Role of the Nonteaching Hospital in Medical Education, *New England J. Med.* 243: 730-733 (Nov. 9) 1950.

for his own patients. This can, but does not always, coincide with teaching interest. When interests regularly conflict, the private service encounters a problem in teaching material as serious as that of the university hospital that admits patients according to staff research interests. "Three-day work-ups" and "sales force check-ups" can ruin a private medical service for teaching as effectively as a predominance of rectal or industrial cases can ruin a general surgical service.

Such patients have educational value only when (a) they are so selected that a high percentage reveal illness severe enough to warrant hospitalization and (b) the work-up of student and/or house officer is listened to and appraised and a plan of action and follow-up instituted before the patient's discharge. This has been successfully done on the residency level at the New England Medical Center's Pratt Diagnostic Hospital, Boston (Samuel Proger, M.D., chief),⁴ and on the student level at Georgetown University Medical Center, Washington, D. C., (Harold Jeghers, M.D., chief of medicine).

Is the remedy to formulate hard and fast admission quotas for teaching needs and to put an experienced resident in charge of their day-to-day enforcement? From the resident's standpoint, the answer is no. True, the admitting resident on a public ward gets valuable training in rapid clinical judgment. Few sensible persons would want to screen admissions from a large practicing staff. The chances of remaining anyone's friend are small, no matter how astute or fair one may try to be. From the patient's standpoint, the answer is also no. His physician has screened him. From the senior administrator's standpoint, again the answer is no. He himself has no time to screen individual admissions. His usual lay admitting clerk scarcely can be expected to be sensitive to teaching values. This clerk can, however, record admission and discharge diagnoses for every patient and tabulate these, together with duration of stay, for every physician and every service. This shows which physicians carry the greatest daily responsibility for the spirit of the teaching hospital.

The first step in the remedy is regular publication of such a report to all involved in educational policy—to staff, administrators, and trustees. I have prepared representative tabulations for 1948 to 1951 for the department of medicine of the Presbyterian Hospital of Chicago. For such data, which are necessary for equitable house staff assignments, it is unwise to rely on word of mouth reports from the house staff.

When an administrator finds difficulties in publication of the report, or the report is not read, this may reflect the wish of a significant part of the staff that education keep out of the way of existing practice. The admitting policy that cannot be subverted by persistent sabotage does not exist. When, per contra, publication is welcomed, the following questions come to open appraisal: What patients should not be assigned to the house staff or students? Should there be a "two-day limit" ward for emergencies, real or suspected? Should there be a unit for centralization of studies on long-term patients? Is an inpatient diagnostic unit needed? An inpatient diagnostic

unit such as that at Columbia-Presbyterian Medical Center in New York (R. F. Loeb, M.D., physician-in-chief), can help to solve the teaching material problem mentioned above by segregating purely service work. Such a unit helps the physician who wants this work. It reduces the hospital's overhead on roentgenography and laboratory procedures. It can help the hospital's drive for funds, for it is not always the sickest patient who carries to the community the word that the hospital does a good job in service.

Highest standards of medical records and of personal performance of critical laboratory work can be successfully required of interns and students elsewhere in the hospital, where the records deal with real illness in contrast to the endless negative results and the complaint "we are being exploited as routine technicians" is validly eliminated. It should be noted in this connection that the recent report of the Advisory Committee on Internships¹ emphasizes these standards and recommends that personal performance of laboratory work be made mandatory during some phase of every approved internship.

Through study of such matters many hospitals have formulated workable admission policies aimed at needs of both education and practice. If they are wanted and backed by the staff and kept flexible and checked by the monthly admission data, chances of success are good with a minimum of cumbersome administrative rulings. Some hospitals enforce rigid regulation of a physician's admissions according to his role in the educational or research program. Applicable in university hospitals, such regulations are met less frequently in primarily service hospitals with teaching aspirations. If there is a keen general interest in teaching, it is feasible to assign house officers in terms of teaching performance, which includes a proper selection of patients for admission. This renders the hospital's competitive position for house staff less vulnerable to a staff minority.

The private services of the Barnes Hospital in St. Louis (Harry Alexander, M.D., chief) provide an example of policies regarding bed and house staff assignments in relation to teaching needs.⁵ Policies regarding admission times for patients, etc., in relation to teaching needs are exemplified by the Emory University Hospital in Atlanta, Ga. (David James, M.D., chief of private medicine).

FOLLOW-UP OF PRIVATE PATIENTS

Without early establishment of habits of following the individual patient, the physician begins and may end by handling disease as a disembodied constellation of symptoms, signs, laboratory findings, and behavior characteristics artificially suspended in time by the accident of discontinuity in study.⁶ Disease processes are not static, and the sequences need to be seen in embodied form.

5. Alexander, H. L.: Successful Training Program for House Officers on Private Medical Service, *J. A. M. Coll.* 24: 236-238 (July) 1949.

6. Cadmus, R. R., and Thoms, E. J.: The Group Clinic: A Pattern for the Future, *Mod. Hosp.* 70: 48-50 (April) 1948. Fitcher, P. H.: A Private Outpatient Clinic in a University Hospital: Its Role in the Teaching Program of the Department of Medicine, *J. Med. Educ.* 26: 430-436 (Nov.) 1951.

4. McCombs, R. P.: Diagnostic Clinics for Private Ambulatory Patients, *J. A. M. A.* 148: 113-115 (Jan. 12) 1952.

On a private service great personal effort must supplement written schedules. The house officer must list patients on whom follow-up is wanted and arrange conferences flexibly enough to meet schedules of students and of the private physician.

The spontaneous development of staff groups interested in a certain type of disease can result in flourishing joint follow-up clinics. Patients are often under care of physicians in independent practice, as in the case of the work in psychosomatic disease at Michael Reese Hospital (Roy Grinker, M.D.), and the tumor clinic (representing surgery, medicine, pathology, and radiology) at Presbyterian Hospital (F. H. Straus, M.D.), Chicago. These clinics cannot be forced; spontaneity is their essence. Thus the emphasis of the psychiatric aspects of ordinary medical and surgical practice is impossible on private services where recent advances in psychodynamics are unfamiliar.

The private physician's share of effort is much more efficient if his office is in or near the hospital. If it is on the other side of the city, it is hard to persuade the busy patient to "drop over to the hospital next Tuesday so that Dr. X and Dr. Y who helped take care of you can join in observing progress."

This also goes for the busy private physician. When he has an office full of waiting patients some traffic-filled miles away, his daily answer to students and house staff can be, "Look, just do this, I've got to go." He goes, and they do as told. "Rounds and run" is as bad for the interchange of medical thought as "eat and run" for interchange at a dinner party. Thus offices close to the hospital can be as important to the community hospital with a good intern program as to the university center.

TEACHING ROUNDS AND CONFERENCES

The first American clinical professor of medicine described the function of teaching rounds for his hospital trustees in 1766 as follows:⁷

There the clinical professor comes to the Aid of Speculation. . . . He meets his pupils at stated times in the Hospital . . . he asks all those Questions which lead to . . . knowledge of the Disease and Parts Affected, and if the Disease baffles the power of Art and the Patient falls a Sacrifice to it, he then brings his knowledge to the test, and fixes Honour or discredit on his Reputation by exposing all the morbid parts to view. . . .

The strong words of the Advisory Committee on Internships¹ add little beyond 20th century emphasis to Dr. Bond's thought.

Why do teaching rounds face special problems on private services? To be assured that all persons involved (student to resident) are working on the implications of every case takes time. The private physician already knows his patients to variable extents. Unless he also knows that properly stimulated students and the house staff will inevitably unearth some important fact about his patient he does not know or some pertinent literature he has not seen, he may regard the time of teaching rounds as wasted.

7. Bond, T.: The Utility of Clinical Lectures (1766), quoted in Flexner, A.: Medical Education in the United States and Canada, Bulletin 4, New York, The Carnegie Foundation for Advancement of Teaching, 1910, p. 4.

Then an occasional physician, skilled in running a large practice, finds himself ill at ease, even unable to talk, in guiding lively two-way communications between colleagues of grossly unequal experience. He feels as much out of place as many an inspiring teacher and researcher might feel in a busy private office.

Delegation of rounds is a valuable though partial solution. Despite the value for specialized (infectious disease, neoplastic) rounds, unless the private physician reserves some part of the bedside teaching for his own efforts, service *esprit de corps* suffers as badly as does his opportunity for continued self-education.

These precautions are a minimum: 1. Whatever the conclusions on teaching rounds, the program set up by the patient's own physician with the house staff must never be interfered with. 2. Questions of diagnosis or therapy must never be discussed within earshot of the patient or the patient's relatives. 3. Requests for a consultation with the physician in charge of rounds must in general be treated with great circumspection. When a physician says, "I'll take care of the patient; you do the teaching," he describes a workable division of labor only when there is real closeness between the two in technique and philosophy of medicine. Successful collaboration of full-time and practicing teachers was recently achieved on the private medical services at Johns Hopkins, Baltimore (Earle Moore, M.D., chief of private services).

Recently several private hospitals have sought as service chiefs men with records of good basic research and public ward teaching. Now granted no one is so effective in teaching bedside medicine as the laboratory-trained man who is equally at home with ears, eyes, hands, and deeper emotional sensibilities and who keeps the laboratory in proper perspective, yet the career full-time teacher has little experience with the complex system of loyalties, favors, and indebtedness that determines the daily events in a private hospital. His eagerness to benefit teaching can, in changing the old order of things, seem to his staff destructive. Accustomed to moving between investigative centers, he is not used to the need of a practicing physician for stability. In turn, many a practicing physician who wants a first-rank teaching program has not seen one in operation since he was a student and does not know the price in his time, tact, and thought. If there are difficulties, he is more likely to cooperate with a chief who at some period has had the same difficulties.

If many attending physicians, with or without cause to the outward eye, grow jealous of the men to whom teaching is delegated, teaching by two way communication dies. I have seen teaching die through jealousy toward no one more formidable than able residents. Revival through exercise of the authority of the dean or department head just does not happen. Thus I think the best leadership is achieved by a man who has spent a year or so in his own private practice or assisting an older man in practice before devoting full time to teaching.

Dr. Bond's rounds continued to the autopsy table when indicated. Today they would include many other laboratories. However, the critically important "death meeting" (where the sequence of each fatal case is dis-

cussed by all concerned) and the clinical-pathological conference may be impeded when a private physician feels the honest recognition of an error before his juniors may be used against him professionally. Though many staff members may be glad to "fix honor or discredit" on their reputations under proper auspices, pathologists and others with special knowledge have found it wise to be gentler with clinical colleagues than is customary in some of our famous ward amphitheaters and have done so without sacrifice of truth. In some places, however, the fear or undue professional discredit has been backed by an occasional concrete incident. The attitudes of teaching cannot be forced on a staff. A realistic appraisal of the hospital and community atmosphere becomes essential. Will time and medical statesmanship help? If not, efforts toward a first-class program may prove wasted.

RESPONSIBILITY FOR PRIVATE PATIENTS ON ASSISTANT RESIDENCY LEVEL

In assistant residencies the young physician should begin to learn his more mature functions through supervised performance. These include explanations of therapy and prognosis, operative procedures, or special examinations and the giving of advice, encouragement, and when indicated, comfort, in addition to running the service smoothly. On a public ward service the role of assistant resident overlaps none other in these functions. House staff applicants often explain their preference for a public ward service by the phrase "greater chance for responsibility."

Thus a private service that hopes to attract applicants must provide some chance for action. If it does, I think a case can well be made for a private service's intrinsic superiority to a public ward at this stage of training. If not destructive in intensity, competitive practice can breed a matchless spirit of detailed attention to patients' needs. To be the junior teammate of a man versed in the humanities as well as skilled in the techniques of medicine can give lifelong illumination. When clinical responsibility is intelligently shared, the senior man wins a warm regard from his team that patients rarely fail to sense.

Unfortunately, some technically skilled physicians do not want a team; they want a retinue (patients rarely fail to sense this, either). These physicians do not want residents to order determinations of venous pressure, phenol-sulfonephthalein tests, or other tests without specific authorization. To point out that on many private services responsibility is shared with benefits to the private physician, house officer, and patient is often useless. Some feel the patient's patronage depends on singlehanded direction of every detail; others have deeper private reasons. When a hospital's intern committee hears in the corridors, "We want fewer residents and more interns," chances for a good residency are slim.

Sometimes physicians will "delegate responsibility" if, and only if, the assistant resident has learned elaborate and rigid procedural patterns. Although a physician in a busy practice has often amassed considerable knowledge of techniques, when these become unchangeable then the service can only be said to "train" as animals are "trained." Its true educational function is valueless,

save to those who have already learned the art of self-education.

Routines and rituals in medicine have a far deeper basis than utility as short cuts. The physician of today, with all the facilities of modern science at his disposal, is still like the temple physicians of the ancients in being asked to alter the course of many human maladies when he does not know how. Even psychoanalytic techniques, which have done so much to illuminate the role of symbolic ritual in human life, have themselves become so ritualized in certain circles that physicians endeavoring to apply scientific method in the further development have been excluded from psychoanalytic societies. Ritualistic aspects of care can be of value and are harmful today chiefly when dogged adherence blocks the adoption of more rational approach. On a private service there is opportunity to become aware of both the valuable and harmful sides of rigid procedures if the attending men have sufficient inward peace to be able to say "we don't know" with considerable frequency, to be able to discuss their own and alternative regimens without feeling their own functions as physicians are attacked. This inward security makes for a service discipline that, though apparently minimal in routines, is truly the most exacting of all. It is when they are headed by men of this type that I have seen private services clearly excel.

ADVANTAGES OF WARD BEDS FOR SENIOR RESIDENCY

The senior resident is ready to take charge of his own group of patients. In surgery this means operating, not only serving as first assistant. In other fields it means the responsibility for making major decisions and seeing that they get implemented.

For these, private patients pay their physicians. Here private beds cannot easily match the educational power of the well-run ward. Can a physician in practice delegate major clinical responsibility? Usually, no. Only under unusually favorable circumstances does the no become a weak yes. Most men who have themselves had the privileges of a real senior residency want them for their juniors and will work hard to set aside residency beds, though pressed in the early years of establishing practice.

Private patients who come to a hospital without a physician or are chosen by other criteria have sometimes been assigned to supervised senior residency care. Successful in some hospitals with senior residency tradition, this demands that the attending staff work as a team. The recent work of the Cornell University department of surgery (Frank Glenn, M.D., chief) is an important example at the New York Hospital. This service, despite difficulties, has had some success in senior residency training on private patients. The similarly organized program in medicine at Presbyterian Hospital, Chicago, that was previously reported⁸ has had to be abandoned, in part through absence of staff support. The patient must always be told of the resident's role in the team. That the attending staff members feel free to do so is a good test of whether a hospital can be successful in giving a private patient senior residency care. Few indeed are the private services where the senior staff man feels

8. Cohn, E. J.: Research in the Medical Sciences, in *Medicine Today: March of Medicine*, 1946, New York Academy of Medicine, Lectures to the Laity, no. 11, New York, Columbia University Press, 1947.

he can step around the table to the first assistant position and permit the senior resident to perform the whole of a major operation. Almost no independently practicing surgeons feel free to do this. This is also true for private clinics operating wholly for profit. An intermediate policy obtains at one of the country's greatest private clinics, which, though dependent on patient fees, supports a large research and educational foundation. Here the staff tries to put its senior surgical fellows in charge during a part (not just the opening and closing) of every major procedure, in the hope that internal synthesis of the real but disjointed operative experience will lead to the same development of skill as the performance of whole operations. At the other limit stands a university-owned, nonprofit private hospital engaged in institutional practice, whose senior surgical resident functions as a full-fledged junior staff member.

Wherever heard, the query, "Is the hospital practicing in competition with us?" needs the further question, "How serious is this competition?"

When many of a staff have not had senior residency experience, they have trouble in making a senior residency more than an extension of the assistant residency. They feel the senior residency is superfluous. They point to many excellent men who never had one. Twenty years ago when the public ward system was most in use, the "pyramidal" residency progression provided few senior residencies in our teaching hospitals. Many who wanted them and were qualified never achieved these posts.

With the addition of private services, a great quantitative gain can come. In essence, we may thus multiply our senior residencies up to the real clinical resources of any given institution. It is vitally important that in so doing we do not go beyond these clinical resources.

The habit of self-education is not the property of any single training method. Yet refresher courses can never replace the habitual reading, observation, and self-scrutiny forced on the senior resident who takes major responsibility under the supervision of conscientious teachers. In the thousand years between Galen and the Renaissance, medicine made almost no advances. Techniques could be taught to apprentices with assurance that they would be as much a part of accepted practice in the physician's old age as in his youth. Today's rapid strides in basic sciences⁸ make medicine's chances of becoming static again slight, but make the chances of failure to advance greater for the individual. Very few persons who have been senior residents fail to continue the habit of keeping up with advances in knowledge.

In view of these situations, some public ward beds are essential. How many? The ratio of 1 to 7 (public ward to private) is a useful approximation for hospitals with a total of 250 or more beds. The basis for this estimate has been published elsewhere.⁹ This minimal figure highlights the situation in some private institutions whose senior residency programs are functioning inadequately from the educational standpoint and indicates that some traditionally great teaching hospitals could lower their presently larger ratios with consequent redistribution of funds toward other teaching and research needs without destruction of senior residency standards.

9. Armstrong, S. H., Jr.: Private Patients in Medical Teaching, *Tr. Am. Clin. & Climatol. A.*, vol. 63, 1951.

The fewer the ward beds, the more urgent is administrative and geographical centralization by major clinical departments under supervision of the heads of the departments or men chosen for ability in senior residency teaching. One of the problems of the private service house officer is that he may be responsible to a dozen attending men for 25 beds distributed through every floor and wing of the hospital. Centralization of ward beds gives a hospital a chance to study what centralization moves may prove timesaving teaching aids for the private services. Some men as they grow older and gain influence in a hospital manage to be relieved of much teaching work while keeping ward beds under personal jurisdiction. If a department's handful of ward beds is distributed between a half a dozen such jurisdictions, the chances of good senior residencies are slight. Independent action can be defeated by the necessity for multiple daily arrangements.

When, by reason of staff or finances, a private hospital cannot afford a minimal-sized ward service, affiliation with a publicly supported hospital can fill the lack. Some public and private institutions have been able to pool their characteristic resources in a successful cooperative program from the intern through the senior resident levels instead of having multiple programs inadequate in one or more features and in mutual competition. The history of educational affiliation between public and private institutions is characterized by wide variation in local practice and by many variations over the years. In some areas medical education has prospered by reason of stability of these relations; in others it has suffered as greatly for lack of them. It takes firsthand familiarity to grasp why these affiliations have proved so difficult some places but so fruitful when once established in others. This familiarity is needed to develop a workable plan free of obvious pitfalls for a given institution. Representative of some important new types of affiliation are the taking over of all operations of the municipal hospital in Nashville, Tenn., by Vanderbilt University (J. B. Youmans, M.D., dean) at a time when many Vanderbilt University Hospital beds have been converted to private use; the assignment of certain senior surgical fellows at the Cleveland Clinic (S. O. Hoerr, M.D., in charge of surgical education) to the Cleveland City Hospital for senior ward work (F. Simeone, M.D., chief of surgery). The Michigan plan of rural hospital and university hospital affiliation should also be considered.¹⁰

Often a city hospital staff will ask a private hospital seeking affiliation, "What can you offer us?" This has to be answered for success. Often with a little exploration, it can be. Research facilities are an example. When Francis Peabody¹¹ set up an investigative group under private auspices, with research laboratories and a small research ward in the midst of a great city hospital, he made a great contribution to the training of practicing physicians as well as of research men.

The aim is not to make a research laboratory of the hospital. To have a research program going side-by-side with patient care can breed an atmosphere of diligence

10. Wilkinson, C. F.: The General Practitioner: How to Create More of Him for the Future Needs of the Country, *J. A. M. A.* 137: 945-948 (July 10) 1948.

11. Peabody, F. W.: The Physician and the Laboratory, in *Doctor and Patient*, New York, Macmillan and Company, 1930, chap. 3.

and inquiry in clinical work that is hard to achieve in formal instruction. The critique (not the techniques) of investigation can be infectious and of lifelong value in practice. Given an institution-wide understanding that "applied research" is not always the most productive of truly valuable results, the presence of the urgency of disease close to the scientist's laboratory is a valuable prophylaxis against the artificial atmosphere of some isolated research institutes. Few city hospitals can provide such facilities with their own resources.

Thus the laboratories of the private hospital, often more extensive than those permitted by many municipal or county budgets, can truly implement the clinical care and basic medical facilities the latter provide. So also can its few ward beds, in giving special care when needed for special problems. Moreover, a private hospital, even in these tax-ridden days, has opportunities to seek financial support not always open to the municipal hospital directly and which are greatly strengthened by the latter's reservoir of clinical material. If, however, research is often used to enhance standing in competitive practice, resultant feeling may hurt the program. There may come a belief that the laboratory advantages of services staffed by a private teaching hospital will put other city hospital services in an unfavorable light or compete for staff with the research programs already set up within the city hospital. Any or all of these feelings, if sufficiently intense, can block fruitful collaboration. If the men on the affiliated services behave in a friendly and appreciative fashion and invite collaboration with other services when feasible, the adverse feelings we have described may dwindle to insignificance over a few years.

STAFFING THE PRIVATE TEACHING HOSPITAL

Given a city hospital affiliation for the senior residency, the core of a private hospital's teaching is still its own private services. A first-class service chief and house staff can maintain a high teaching standard on a public ward, even if some of the attending men give only minimum service required for patient care. For a private service, an enthusiastic chief and a keen house staff are not enough. Teaching enthusiasm and ability are needed in each private attending man.

When a service falls down in teaching performance, word goes from intern to prospective intern and from resident to prospect resident. With today's excess of house staff positions over candidates, a long time can be needed to reverse the trend of the service's drawing power. Though scarcely in a position to determine their curriculum, students and house staff are rarely deceived about the sincerity, interest, and intellectual integrity of their teachers.

So this question comes up: "Does a man uninterested in or incapable of teaching have a place on a private teaching service?" If staff selection is based on appraisal of long-term teaching promise in addition to usual bases of professional skill and loyalty, a hospital will face this question rarely.

Of great value in selection is a research program, backed by locally administered part-time fellowships. A private hospital with a clinical and scientific staff,

chosen with consideration of cooperative work, has real investigative as well as educational value. Although few hospitals can afford research departments in all pre-clinical or clinical fields, many can afford one department with a creative scholar in charge, e. g., in pathology. The situation of the Presbyterian Hospital in Chicago is of interest (G. M. Hass, M.D., chief of pathology, D. A. MacFadyen, M.D., chief of biochemistry, and J. A. Campbell, M.D., chief of medicine). Having recently set up fundamental investigative laboratories on a scale rare among private hospitals with few public ward beds, it now faces the problem of comparable clinical facilities to give maximum use of its superb scientific plant in training practicing doctors and investigators. Though it is obvious that certain types of research are out of place at a private hospital, one of the greatest clinical investigators of our age, Sigmund Freud, worked almost exclusively with private patients. In investigative work, private hospitals face problems that a hospital with a public ward service under central direction does not. These arise from both the necessary admitting practices of the private hospital and from the occasional divergences in considerations of patient care from the standpoint of the private physician and scientific critique from the standpoint of the clinical investigator. With a staff united in purpose they can often be solved.

Local management of part-time fellowships permits local analysis of misuse that is not always possible with national full-time appointments. If a man expands his practice to the neglect of a paid part-time opportunity for teaching or research, this can be observed better with local administration than by a conference 5 to 10 years later to wrestle with the inadequate teaching function of his many beds. Most existing fellowships on a national or university level (such as the fellowships under the National Research Council, the U. S. Public Health Service, the Rockefeller Foundation, and the scholarships of the John and Mary Markle Foundation) are aimed at the development of the full-time teacher and investigator, not the teaching practitioner.

It is not easy to select men for teaching and research. One can be fooled by early adherence to the outward precepts of medical scholarship, which can cover a pervading paralysis of independent thought or action. On the other hand, when an able man (whose thirties are devoted to the demands of a young family and a confiscatory income tax rate) turns in his forties to the scholarly side of medicine, he often does more for teaching than the man whose encyclopedic knowledge has been acquired largely from books. The problem is finding this man in his burdened years—in differentiating him from the man whose practice, however large, is never quite large enough.

I have seen splendid teachers in 50-bed rural hospitals as well as in great medical centers. Nearly every man is a teacher of some effectiveness by the end of his house staff service. Then suppose he becomes an assistant in a very busy office and at the same time is given a dispensary morning assignment of students. He begins with enthusiasm. On busy days, he arrives at his private office late, sometimes without lunch, to find a full waiting room and his seniors or associate asking where he has been. Then

he leaves this office late, misses dinner in handling the evening house calls, and comes home late to find his wife with the same question. Five years of this can put him in a bad teaching position unless his senior partners make certain that he has time to teach, read, and do some independent work. They are as responsible as he for his own development and for the teaching program of the hospital.

Whether through lack of time or of inclination, when the young man fails to study as he sees patients, he cannot keep up with advances in medicine; clinically immature students sometimes find themselves better prepared in the theory of medicine. It takes a lot of demonstrable practical sagacity to retain the respect of the students in this situation.

If several such young men become valuable private office assistants for capable senior teachers who try to secure permanent staff appointments for them, the finest of laboratories, full-time men, or research funds cannot offset the damage to the teaching program.

A lay board of managers or the administration of affiliated universities can help in setting standards, but within limitations. The lay board members of private hospitals are open to private persuasion by staff physicians who care for them and feel a serious conflict of loyalties in making decisions against the wishes of their own physicians. The occasional lay board member who makes an independent study of the processes of medical education can be of great service to a teaching program. This takes both devotion to duty and time, which is as valuable to business men as to physicians. Teaching is a collaborative job rarely fruitfully forced from the "outside," as by administration, and when it is forced, the relationship is unstable. Even when universities own hospitals, this is not always a sure safeguard against either exploitation or stagnation.

A private hospital should be prepared to provide beds for moderate-sized practices of some of an affiliated university's key investigative clinicians. (The hospital staff must insist on proper qualification for practice. More than one able scientist with a degree of doctor of medicine has been tempted to enter a clinical field without adequate training.) Because there exist rare instances of failure of function of whole clinical departments when one or two salaried staff members exploit practice privileges in competition with private physicians, to the neglect of teaching and research, it is essential to define borderlines between legitimate use and exploitation that will be valid locally.

Today many a full-time teacher in the old-fashioned sense is forced by family pressure to seek a source of additional income beyond his university salary. Salaries, particularly at the associate professor level, were barely adequate a decade ago and have not increased commensurately with taxes and inflation. The simplest administrative safeguard against exploitation of practice privileges is the setting of a maximum amount that a man can earn and the insistence on periodic reports. Any flagrant abuse is usually obvious.

Hospital staffs, which are self-perpetuating by promotion of faithful assistants, do not always welcome independent appointments by university authorities. If the staff depends on independent practice, behind such re-

sentment is fear that a new man appointed for educational reasons (particularly if appointed at a top level) will use his teaching or research prominence to take over part of existing staff practices. It is important that full-time educators act in such a way as to make these fears groundless.

If a university depends completely on appointments of persons emerging from an entrenched clinical faculty (whether in private or institutional practice), the danger of self-perpetuation into mediocrity remains. The history of medical education is marked by many a battle between a university aiming at top educational standards and a staff aiming at preservation of seniority privileges. For every stalemate many superb collaborations have emerged. If a hospital staff is able to take the responsibility of examining its own appointments in the light of teaching and research, a university is wise to make clear its educational criteria, examine carefully and independently the men proposed, appoint those who fulfill them, and reject those who do not, with explicit statement of reasons, and go no further. Indeed, a few private hospitals with loose university affiliations have implemented this ideal by appointment of committees outside their own staff, including representatives of the basic sciences, to select key staff replacements. This is done at the Massachusetts General Hospital, Boston, Dean Clark, M.D., medical director.

When a university gives an initial three year appointment, it usually reviews the record before the end of that time. In many private hospitals the usual one year staff appointment given by the lay board is subject to renewal year after year without scheduled academic review. When private hospitals and universities affiliate, sometimes the university mistakenly takes the hospital's one year to mean a single year and therefore waives its own reviewing function. It is critically important for the private teaching hospital to inform every new man that initial staff appointments and academic rank are subject to joint review at stated periods and are mutually dependent.

If a university finds a hospital staff as a unit cannot meet its standards, often a very satisfactory distribution of good teaching services can be achieved by supporting individual services in several hospitals (good examples of this can be seen in certain private hospital services affiliated with Northwestern University in Chicago). Cumbersome as this arrangement may sound administratively, when the university influences only those services interested in its work and takes no part in the other services of a hospital, friction in hospital-university relations is often minimal. When a university takes over the function of supplying a house staff to approved services in several hospitals, it moves by hospital default into a central role in postgraduate medical education in addition to its traditional undergraduate role.

The final responsibility, however, for use of private beds in medical education belongs mainly to the private physicians. They become associated with teaching programs because of teaching interests and they seek to perpetuate their interest by staff recruitment. This is facilitated in communities where there are enough private beds; physicians without intense interest in teaching can voluntarily become associated with other hospitals without loss of efficiency in service to patients.

SUMMARY AND CONCLUSIONS

For teaching purposes it makes no difference whether the patients are in private rooms with baths or in 20 bed wards or whether their hospital charges and professional fees are paid by private insurance, the patients themselves, or public authorities if the following criteria are met:

1. The patients present the range of serious disease the young physician will meet later on.
2. The house staff and students can follow the course of the patients after discharge.
3. The staff members love to teach, realize that teaching takes valuable time and do not begrudge it, and cherish the continually broadening viewpoint arising from day after day exchange with younger colleagues.
4. The staff members are secure enough in relationships with patients to share responsibility with junior colleagues.
5. The staff members are sensitive to the difference between mere training and true education. Education presupposes training in the accepted concepts and procedures of the day and goes further in encouraging the student to explore and to face revisions with equanimity.

At the end of hospital training, when a real degree of skill and experience has been achieved, the senior resident is ready to take charge of his own group of patients in the teaching hospital. (In the surgical specialties this includes actual operating not merely serving as first assistant, and in the medical specialties the major diagnostic and therapeutic decisions.) For these functions, private patients pay their private physicians not hospital residents. Here private services cannot completely supplant the public wards.

A few private services over the country satisfy these criteria. Their teaching performance is attested by their popularity in attracting house staffs. Many do not. However good their educational programs look on paper, a few hours in the house staff dining room, a few days visiting the actual teaching exercises, and some hours on rounds with the attending staff disclose problems of patient population and in follow-up continuity, of attending staff selection and in provision of proper facilities for their practice and research to implement teaching, and of the necessity for a minimal ward service under central departmental control for senior residency training.

Most difficult of all are problems of physician-physician relationships. Their solution is critical to the success of the private service in the sharing and delegation of clinical responsibility essential for development of clinical maturity. The complexity of these difficulties leads me to feel that the success of the public ward system in teaching performance will not be matched by all private services in the near future.

Much of the working out of problems will depend on local conditions, such as whether the private hospital staff is open or closed, whether the supply of private beds meets demand, whether city hospitals welcome close teaching affiliations in a senior residency program, and whether private hospitals can give the city hospitals equal advantages in such an arrangement.

Success will depend on the persistence of those who believe in the role of private institutions in medical education. An old-fashioned public ward service can work well

with a keenly interested chief and a handful of capable attending men as a faculty. Its capacity to give independent action to its house staff can offset many indifferent teachers. A private service can work well only if all persons involved understand the goal, want it, and will work for it.

**PANEL DISCUSSION: THE EVOLUTION OF AN
EXPERIMENTAL PROGRAM OF MEDICAL
EDUCATION AT WESTERN RESERVE
UNIVERSITY**

Joseph T. Wearn, M.D., Dean, Professor of Medicine and Director of the Department of Medicine, *Moderator*.

John L. Caughey, Jr., M.D., Associate Dean and Associate Professor of Clinical Medicine.

T. H. Ham, M.D., Professor of Medicine, and Chairman, Committee on Medical Education of the General Faculty.

John W. Patterson, M.D., Associate Professor of Anatomy and Coordinator of Phase 1.

Dr. Weiskotten: For quite some time all of us interested in the field of medical education have been interested in a rather comprehensive, well planned experiment in medical education that is being conducted at Western University School of Medicine, which may have a very potent influence on the future of medical education in this country. We have arranged to devote the remainder of the session this morning to a panel discussion on "The Evolution of an Experimental Program of Medical Education at Western Reserve University." At this time I will turn the meeting over to Dr. Joseph T. Wearn, Dean, Professor of Medicine and Director of the Department of Medicine at Western Reserve University, who will serve as moderator for this panel discussion. Dr. Wearn has asked that I introduce his panel. They are Dr. John L. Caughey, Associate Dean and Associate Professor of Clinical Medicine; Dr. T. H. Ham, Professor of Medicine, and Chairman, Committee on Medical Education of the General Faculty, and Dr. John W. Patterson, Associate Professor of Anatomy and Coordinator of Phase 1.

Dr. Wearn: Thank you very much, Dr. Weiskotten. We would very much prefer to have presented this four years hence when we will have carried one class through the new educational program. In fact we are making a preliminary report of work in progress. We admit immediately that there are things about it we cannot answer. We are part way through the first year.

Dr. Weiskotten has summed up very clearly the various steps that have been taken by medical schools in revising curricula over the past years. These steps have been necessary because very rapid changes have taken place in medicine, with such things as the discovery of antibiotics, and the disappearance of a whole group of diseases in little more than a year's time, and with the advent of cortisone and physiological and biochemical studies of hormones. New facts have piled up at such a rapid rate that it has been impossible to fit many of them into the curriculum in an orderly fashion.

During the past six or seven years the medical school at Western Reserve University has been in a rather unique position to attempt an educational experiment.

That is due to the fact that in about seven years' time we have had to find new heads for eleven out of thirteen departments; and of some twenty-seven professors, about two-thirds were appointed to this rank in the same period.

When these men were being selected it was of the greatest interest to me that, without exception, every one expressed the opinion that the time was ripe to approach the whole subject of medical education in a comprehensive way and to see what we could do if we had a clean slate in setting up a medical curriculum.

With the facts coming in so rapidly, it has become impossible for the students to memorize all the medical facts which are important. Dr. Vannevar Bush, with whom I had the privilege of working during the war, in his book, "Modern Arms and Free Men," stated that medical education is quite foolish not to profit by what the biochemists, chemists and engineers have done.

The chemist no longer attempts to memorize every single formula, but has a handbook in which he can find at a moment's notice the answer to his question, just as an engineer can find the size of a beam that is needed to support a given weight in a bridge. The medical curriculum has become so overburdened with facts that it was our feeling that the time had come to see if we can arm the students with basic principles that will enable them to tackle any problem that comes up, and not just memorize facts whose application they do not clearly understand.

All of the discussion of this kind welled up during the war, and immediately after the war action began in a great many medical schools. As you know, Colorado, Harvard and others have approached various parts of this program. The only difference is that we have tried to approach it from an over-all point of view.

This has not been a hurried program. Since 1945 we have been having many meetings of members of the faculty, these meetings growing in length and growing in interest and growing in intensity of debate. Finally, the faculty asked unanimously that we find some individual who could coordinate and lead this program.

When the time came to crystallize this, Dr. Lester Evans, an associate of many years in discussions on medical education, was approached. In 1950, the Commonwealth Fund made a very generous grant which enabled us to undertake this study. These events resulted in the bringing to Cleveland of Dr. T. Hale Ham, who will speak to you later.

I have never known any problem of research or clinical work or any experiment that involved either the care of a patient, teaching or research, that has had the time and effort given to it that has been given to this program. The faculty has met. Individual committees have met. They have spent Saturday afternoons and Sundays and summer vacations, and in one instance last summer the faculty set aside a time and met in a country spot on an open lawn for three straight days, without interruption.

When one gets that type of debate, that type of interest in medical teaching, in my opinion something good is bound to come from it, because ideas are expressed frankly, no punches are pulled, and an advance is made not because of thought of one man or two men, but by

the effort of the entire faculty—part time, full time, clinical and preclinical.

This is a fact the importance of which I cannot over-emphasize, because this absolutely free discussion by instructors from all departments and academic grades has greatly improved our understanding. It has brought the clinician to the biochemist, the microbiologist to the surgeon.

We found we were not talking the same language in the beginning, and some of us have found, without too much discouragement, that we still cannot understand some of the things the chemists are talking about. They do not understand all we say when we talk about certain clinical subjects. But getting all our people around the table arguing about medical education and working out methods of teaching, has been of great benefit to all of us and has made it possible to create the plan for this experiment. It is a group experiment, and, it is also one which will be modified by our experience.

Without further ado I would like to introduce to you Dr. John L. Caughey, Jr., Associate Dean and Associate Professor of Clinical Medicine. Dr. Caughey will give you some of the background of the experiment.

The Background of the Experiment

Dr. Caughey: It is clear, from what has already been said this morning, that any experiment in medical education has its roots in the accumulated experience, the academic tradition, to which both schools and individuals are heirs. The experiment at Western Reserve University is no isolated phenomenon. It cannot be separated from the developments which have been going on and are still going on in schools and hospitals all over the country, and it is of course clear to all of you that such experimentation in medical education has been greatly aided by the Council on Medical Education and Hospitals of the American Medical Association and its sister organization, the Association of American Medical Colleges. In his paper, Dr. Weiskotten has cited examples of the step by step progress that has been made in physician training. At Western Reserve we have profited a great deal, not only from our study of published reports on educational experiments but also from personal visits to other schools and from conversations with those who have come to Cleveland.

Our faculty has been particularly interested in correlated teaching, such as has been carried out at Bowman Gray, the Graduate School of Medicine of the University of Pennsylvania; the University of Colorado; the University of California in Los Angeles; at Harvard; and in clinical programs at the University of Pennsylvania, Boston University, Cornell and the Medical College of Virginia.

We have had many contributions from individuals who have stopped to talk over problems with us. Among these have been President Cole of Amherst College, Dean Carman of Columbia, and Professor Carmody of Haverford, to mention only a few. They have been of material assistance.

Unless attention is given to the history of medical education, it is easy to forget that the medical curriculum, although fairly well standardized in our schools today,

cannot really be called a traditional curriculum because it began less than sixty years ago, and was not generally adopted until after the Flexner report in 1910, only forty-three years ago.

The present clear-cut separation of the preclinical from the clinical training of medical students, which is indicated in some schools by a geographical separation and in many others by an intellectual isolation between the two faculty groups, began in this country when the basic sciences were brought to medicine as a new phenomenon and added to a preceptorial type of physician training which had had two centuries of tradition behind it.

Sixty years ago the clinical teachers had very little common ground with the scientists from biology, chemistry and physics who were being attracted to teaching positions in medical schools. The pattern for our curriculum today was cut then and this pattern has not been altered to fit the progressively closer relationships between them.

The strict departmentalization of medical schools and their teaching programs was an almost inevitable result of accepting the university as the agency best suited to elevate the standards of physician training. Because of their responsibility in widely separated areas of knowledge, universities especially in Germany, evolved a departmentalization which was convenient for specialized scholars interested in research, and for students seeking a great variety of educational objectives.

At the time that medicine adopted this pattern of the university, there was little question raised as to the appropriateness of university departmentalization in the education program of medical students, all of whom were seeking training in the same professional area, and most of whom would devote their lives to clinical rather than academic work.

We have become so accustomed to this type of university leadership that it is difficult for us now to imagine what pattern we might have in medical education in this country today if, in the 19th Century, the hospitals, the local medical societies or the state licensing boards had assumed preponderant roles in the direction of medical education.

In the United States, the medical colleges have been slow to develop a true status as graduate schools. At first in this country, physician training followed right after graduation from high school, and it has been only recently that we have reached the place where it is agreed to require three years of college training for all premedical students.

It has been easy to lose sight of the fact that today the great majority of students entering medical schools have bachelor degrees, and the selected group average more than twenty-two years of age. Our habit of speaking about "undergraduate" medical education contributes to our confusion.

Perhaps because of a lack of intellectual discipline among college students in general, or because of the tremendous pressure exerted by the weight of information that medical teachers wish to transmit to their students, medical schools have tended to develop rigid programs. In most schools the student has little room for voluntary action. All students are expected to follow the

same pattern, irrespective of variations in their interests and abilities.

The instructor is often a threatening figure who uses examinations to compel attendance and attention at his lectures, under threat of expulsion from school.

This is a far cry from the concept of a graduate school, where a mature student, with the friendly guidance of his instructor, begins a process of self-education which will lead him toward independent, scholarly achievement. In fact, the formal teaching activities of our medical schools are in some ways better described as high-class training rather than as educational programs.

In respect to the developments at Western Reserve University School of Medicine, it is not easy to give any specific date to mark the beginning of this study. Discussions have been going on, as Dr. Wearn mentioned, for several years, and have been based on ideas from many sources. There is no claim to originality. In fact, it is probably correct to say that the only unique thing about the Western Reserve situation is that the faculty has put a comprehensive new program in operation, and is not just talking about what might be done.

This ability to act arose from certain special circumstances in the school. Dr. Wearn became Dean in 1945 and, as he said, there has been a large addition to senior staff since that time. This influx of new people has made a great impact on the school, and has contributed to the ability of the school to move forward.

Shortly after Dr. Wearn became Dean, he proposed the organization of the General Faculty, which consists of all the members of the faculty above the rank of assistant clinical professor, plus one or two junior members from each of the 13 departments. The legal faculty delegated to this group full responsibility for student affairs, instruction and interdepartmental cooperation, and it has been the General Faculty which has been in charge of this program at Western Reserve.

In this General Faculty, the first educational issue was raised early in 1946 on the subject of course grades. There was much dissatisfaction with the emphasis placed by the students on precise scores made in each examination, and their tendency to concentrate all their attention on material which they expected to encounter in the next test. A committee was appointed to study this matter, and it reported in November 1946 with recommendations, one of which was that the use of comprehensive examinations be carefully considered.

The committee appointed to study comprehensive examinations made a report early in 1947 in which it suggested that correlative examinations should be given at the end of the second and third years. It is of considerable interest that the General Faculty refused to accept this recommendation, on the basis that the students were already overloaded, and that if we added a general examination on to the things they already had to carry, it would be too much.

Furthermore, they thought this was a very indirect method of approaching the problem of correlation of instruction. At this meeting there was general agreement that further study should be done on the curriculum, and a committee was appointed to study correlation of in-

struction. If the committee decided that such correlation should be accomplished, it was expected to outline a method.

This Committee on Curriculum was the kind of committee that is familiar to all of you in medical schools, I am sure. It was made up of members all of whom were very busy already, and all of whom had primary and pressing obligations in other matters than the curriculum.

They met regularly about once a month and handled the general statements very nicely, but they did not get any detailed work done in the intervals between meetings. The committee contributed a good bit to the education of the members of the committee, but it was not long before they saw that the type of educational research which they felt would be desirable could not possibly be accomplished under such an organization.

On April 30, 1948, the committee reported to the General Faculty, pointing out some basic deficiencies in the educational program, and recommending the creation of a faculty position for a person to devote a major portion of his time to the study of educational problems.

The General Faculty accepted the idea that an adequate organization and financial support would be necessary if curriculum planning were to become effective. Initial discussions of a proposal for broad study of medical education were begun with representatives of the Commonwealth Fund of New York in the fall of 1948. The conversations were rather vague because of our inability to define precise objectives and methods, but these discussions did help significantly in convincing us that a very thorough reexamination of educational philosophy and procedure would be valuable.

In 1950, the Commonwealth Fund appropriated \$435,000 for a five year project. At that time it became apparent to our faculty that we could no longer stay in that popular and comfortable stage of conversation about curriculum planning—that we would have to go to work. Dr. Ham will describe the program which has evolved since then.

In concluding this summary of the background of the program at Western Reserve I would like to point out that the school had a fortunate combination of circumstances—strong leadership, senior faculty interested in teaching and accustomed to cooperative efforts in research, and adequate financial support for a comprehensive study of educational problem.

It is equally important in this conclusion to point out that these local circumstances came at a time when many other individuals and faculties in medicine and associated professional disciplines were concerned about the objectives of education and the methods being used to attain them. It was apparent that the Western Reserve activity was only one manifestation of a nation-wide ferment arising from the desire to make more effective use of human resources by providing educational opportunities designed to develop fully the capacities of the individual.

Entering upon an experiment at this time, it was inevitable that our faculty should concentrate attention on the processes of education and on efforts to develop appropriate attitudes and motivation in the students as well as an integrated knowledge of body structure and function. From this faculty effort has emerged the strong conviction that the medical student is in fact a graduate stu-

dent capable of increasing responsibility for his own education; that the medical student is a human being who is as much entitled to treatment as a whole person as is the patient; that as a person the student needs to grow in an atmosphere that is conducive to the development of constructive attitudes and motivation, and that a sound educational program must provide guidance in the selection and pursuit of long range objectives as well as in the acquisition of facts and techniques.

Dr. Wearn: Next I will call on Dr. T. H. Ham who will discuss the evolution of a curriculum by democratic methods. Dr. Ham, as you know, has been studying curriculum at Harvard, where he made some interesting changes in the teaching of laboratory diagnosis in the second year.

Directly after he came to Western Reserve, we heard that the School of Medicine had appointed a "dictator" who would take over all the professors and would thereafter run the departments as he saw fit. Conversely, the program has been evolved by a democratic method that has gained the confidence of the entire faculty, since the youngest instructor, or even a resident, intern or student may criticize or contribute to it.

The Evolution of a Curriculum by Democratic Methods

Dr. Ham: It is with considerable humility that the program of medical education has been initiated, discussed and evolved. This presentation is divided into three long range considerations:

First, the democratic methods which are being used to evolve the program; second, the basic principles of the program which will ever be changing; and, third, the method of administration of a program which has not been tried in exactly this form before.

In this narrative account it should be realized that the planning for this program began many years ago, at least in 1945. However, the entering class was the first to initiate the program, which is only one semester old. As this class proceeds in its second, third and fourth years, the program will advance with this class, so that one cycle will have occurred by 1956. Accordingly, about ten years will have elapsed from the beginning of the planning to the graduation of the first class under the program. Still another ten years will be required to evaluate the program. This presentation is a progress report of preliminary data. Since the experiment is new, material has not been published.

The democratic methods by which the program was evolved will be described first. The General Faculty, which is made up of 200 members of the teaching staff, is responsible for the policy of the instruction and for inter-departmental cooperation. The Committee on Medical Education serves the General Faculty, and has one representative from each department, who serves a period limited to four years. Since each member is appointed by the director, this has given true representation and good communication for each department. It has given the opportunity for differing opinions to be expressed, to be expressed with vigor. Most important views have been presented in writing, and the Committee on Medical Education has become a senatorial forum on medical teaching. There has been free debate but effective action by this group for the General Faculty. The

concept of interdepartmental collaboration in teaching had been accepted for several years at Western Reserve University School of Medicine so that the faculty was ready to consider changes of a major sort.

To initiate the planning, each department was asked by the Committee on Medical Education to submit in writing a description of the following: the current program, criticism of the program, proposed plans for the future, subjects in which there was duplication and overlap, and where it might be advantageous to collaborate with other departments, and also the relation of the broad programs of medical education to their own department.

Departments embarked upon this analysis found that there was considerable debate within the department and that many issues remained open for continuing discussion. However, there was obtained from each department a written report which was discussed and the discussion recorded. These data were reproduced and distributed to the faculty. This served as a definitive way of communication so that the clinician could know the plans and program of the biochemist, and the preclinical faculty could know about the clinician. The faculty not only planned, but listened to one another.

Immediately it became apparent that one could not begin by discussing curriculum and that curriculum was the last and the final resultant of all the other considerations. There was willingness on the part of the faculty, even though difficult, to discuss a series of steps leading to the curriculum. First, there was the mission of medicine itself, then the objectives of medical education which would carry out this mission. From such objectives one could choose and define the faculty and its relation to the students and then the educational methods themselves. Much attention has been given to educational methods, as already emphasized by the Chairman of this meeting. There was then considered the medical aspects of the educational program, the facilities required, and lastly the curriculum. The curriculum is the course through which the student travels and is a definition of limitations as well as opportunity.

To return to the objectives of medical education, it was agreed to give a basic education to the doctor to become either a family physician, specialist, teacher or investigator. The mission of medicine itself includes the care of the patient, prevention of illness and rehabilitation of the patient and research and teaching.

Learning the approach to solve the problem of the patient or of biologic nature was considered to be a major objective in medical education. Learning basic principles, learning methods of study, learning the right attitudes to patients, and professional colleagues, are important educational objectives.

It is immediately apparent that coverage of available information is impossible. If this can be accepted, then emphasis can be placed on learning basic principles, methods, the scientific evaluation of data and clinical evaluation of patients. It was agreed by the faculty of the School of Medicine at Western Reserve that it would experiment with correlation in the teaching of the biology of man, the principles of medicine, and care of the patient.

For this experiment it was agreed to try interdepartmental teaching, in which there was cooperative planning,

cooperative presentation of lectures, laboratory, conferences and clinical exercises. Accordingly, subject committees were formed by persons from departments concerned with the teaching of a field.

Another objective in the method of education was taken from the preceding two centuries: namely, a prolonged contact of the student with a preceptor in basic science and in clinical medicine.

The educational environment is believed to be so essential to the learning process that it has been given emphasis throughout. The program has been designed to treat the student as a maturing individual, as a colleague, and as a member of a professional graduate school, with increasing responsibility for his own education, for knowledge of medicine, and for care of patients.

Also, an attempt is being made to arrange the examinations so that they supplement rather than conflict with it, to arrange a mature system of grading, and to encourage the initiative of the student by giving him free time in each year to carry out elective studies. These are broad concepts that have been translated into definitive plans for the program.

Concerning facilities for students, it was immediately apparent that a multi-discipline approach to the teaching of a subject would require a unit in which multiple disciplines could be carried out. Accordingly, a multi-discipline laboratory was planned and is in operation, where the student may carry out procedures of the several preclinical sciences as well as research. The student occupies the same unit throughout the year. It is always available to him during day or night so that it is his own place for work or study. Possibly in the future, a clinical facility might be desired in which the student could have more continuity in following patients in the hospital, outpatient and home.

Considering the curriculum itself, Phase 1 has been in operation currently for the first term. It is the course for the first year and is a study of normal biology of man, with emphasis on biochemical activities of the body, structure, function, growth and development, with a study of organs and organ systems rather than separate disciplines. The student is introduced to the normal patient, normal infant, family, and the behavior of man as a member of society.

Phase 2, which represents the second and third years, is still being planned. During this period there will be emphasis on the principles of medicine, prevention of disease, mechanism of disease and natural history of illness. Diseases of organs or systems will be taught instead of separate disciplines. Patients will be studied increasingly for diagnosis, for definition of principles concerning the mechanism of the illness and of treatment.

In Phase 3, an attempt will be made to apply the biology of normal man and the principles of medicine to the care of patients in the hospital, outpatient department and home.

Administratively, the departments have maintained their personnel and their review of the material that is taught but have agreed to allow collaborative teaching by members of their departments. The actual teaching is conducted by the subject committees under a coordinator for the particular phase, such as Phase 1. The policy of the program of medical education is being worked out

through the General Faculty, through the Committee on Medical Education, and through certain subcommittees of the Committee on Medical Education. Dr. Patterson, who is coordinator of Phase 1, will describe its operation.

Dr. Wearn: Dr. John W. Patterson, Associate Professor of Anatomy and Coordinator of Phase 1, and actual administrator of the changes that have taken place, will tell us about the program for the first year.

Phase 1. The Program for the First Year, 1952-1953

Dr. Patterson: I would like to summarize the high points of the material pertinent to Phase 1 that have already been covered. Phase 1 is concerned with normal structure, function, growth and behavior, and the introduction of the student to the patient-physician relationship.

Phase 2 is concerned with alterations of the above, and the study of disease.

Phase 3 is concerned with the actual care of the patient.

To highlight the purpose of a curriculum, I would like to point out three primary objectives: First, to obtain a basic skill and knowledge; second, to develop proper attitudes toward man and his relationship to the community; and third, to develop habits of self-education.

In preliminary discussions of the old curriculum, the three major criticisms centered around each of the three basic objectives.

Concerning basic knowledge and skill, it was noted that there was a hiatus between the basic science group and the clinical science group. The basic scientists felt that they were teaching the students the most recent findings from the literature, while, the clinicians, being unfamiliar with it, were letting this knowledge go to waste.

On the other hand, the clinicians felt that the basic scientists were teaching the students research material that was not particularly pertinent to medicine and that the clinician had to teach the practical aspects of the basic sciences.

A second objection was related to the fact that man was not considered as a whole. In the medicine clinic the student knew the patient had some disease related to internal medicine, and on the surgical ward the diagnosis had to be consistent with a surgical disease. Furthermore, the social, economic and psychological factors pertinent to a given case were often neglected, either because of a shortage of time or a lack of interest.

Third, there was a major objection on the basis that our educational methods were based on what has been known as "spoon feeding," the highly organized lecture and laboratory experiment. The latter were described by some as being "cook book" in type.

The three basic parts of Phase 1 are related to the objectives:

1. Basic science teaching.
2. Clinical science teaching.
3. Those aspects pertinent to self-education.

I would like to go into each of these in a little more detail.

The basic science material of Phase 1 is presented in a correlated manner by subject committees. The subject committees are made up of representatives of the various departments, and are assigned a given amount of time for the presentation of a certain subject. The subject committees of Phase 1 are as follows:

Schedule for 1952-1953

Orientation	Sept. 18-20
Introduction	Sept. 22-27
Cellular Energy	Sept. 29-Oct. 10
Cellular Structure	Oct. 11-Nov. 5
Cell Growth and Development.....	Nov. 7-Nov. 18
Exam	Nov. 19
Locomotion	Nov. 21-Nov. 26
Thanksgiving Vacation	Nov. 27-Nov. 29
Locomotion	Dec. 1-Dec. 6
Nervous System	Dec. 8-Dec. 20
Christmas Vacation	Dec. 22-Jan. 3
Nervous System	Jan. 5-Jan. 12
Blood Capillaries and Lymphatics.....	Jan. 13-Jan. 21
Exam	Jan. 23
Respiratory System	Jan. 24-Feb. 9 (1:00 P.M.)
Heart and Large Vessels.....	Feb. 9 (2:00 P.M.)-Feb. 28
Digestive System	Mar. 2-Mar. 18
Exam	Mar. 20
Liver	Mar. 21-Mar. 28
Spring Vacation	Mar. 30-Apr. 4
Liver	Apr. 6-Apr. 13 (1:00 P.M.)
Endocrine Systems	Apr. 13 (2:00 P.M.)-May 1 (1:00 P.M.)
Kidney	May 1 (2:00 P.M.)-May 16
Reproductive Systems	May 18-May 29
Memorial Day	May 30
Exam	June 1
Comprehensive Exams	June 8-June 13

The Orientation Committee was responsible for orienting the student to his career in medicine, and more particularly to the years he would be spending in medical school. Three days were spent on these sessions.

The program then develops at a cellular level. The introduction to the cell is a joint effort of the following three subject committees that consider cellular energy, cellular structure and cell growth in more detail. This introduces classical biochemistry and cytology, with a small amount of microbiology.

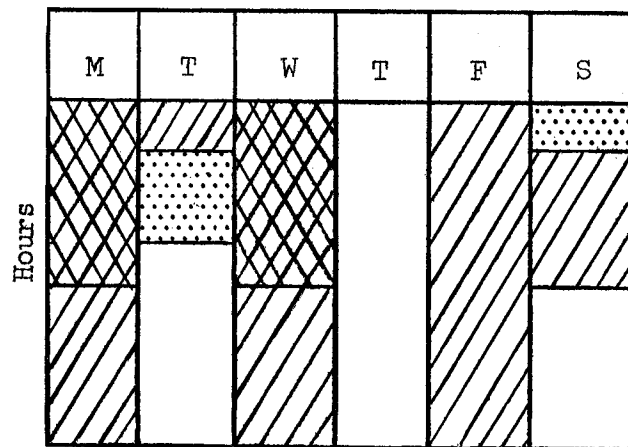
Following that, the Locomotion Committee brings in the disciplines of anatomy and physiology along with the histology and biochemistry. Gross anatomy in Phase 1 is limited to approximately 80 hours. Dissection in Phase 1 is done on the infant cadaver. The major part of gross anatomy and the dissection of the adult cadaver is postponed so that it may be correlated with medicine and surgery in the second and third years.

The subject committees each integrate biochemistry, histology, gross anatomy, and physiology.

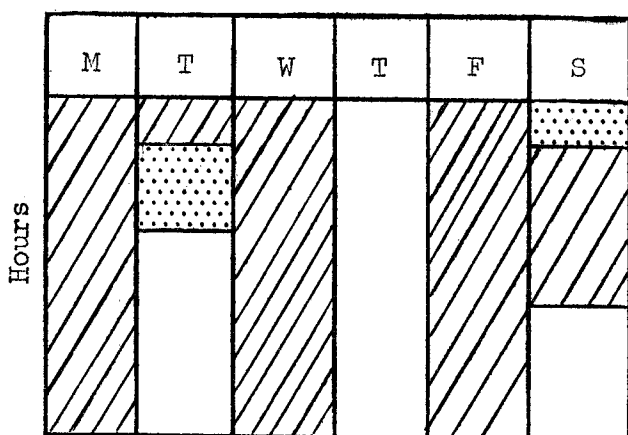
There are no text books organized in this way, therefore, it has been necessary to select standard text books and to correlate the material of these books by printing a syllabus with references.

The clinical science section of Phase 1 has to do with the introduction of the student to the patient-physician relationship. It is oriented around a laboratory problem. Each student, during the sixth to eighth week of school, is introduced to a patient in the ante partum clinic. These patients are selected so that the expected date of delivery is in approximately one month. The student has a chance to talk to the expectant mother, to visit the home, to follow her course, to observe the delivery, and then to follow the course of the infant and mother following delivery.

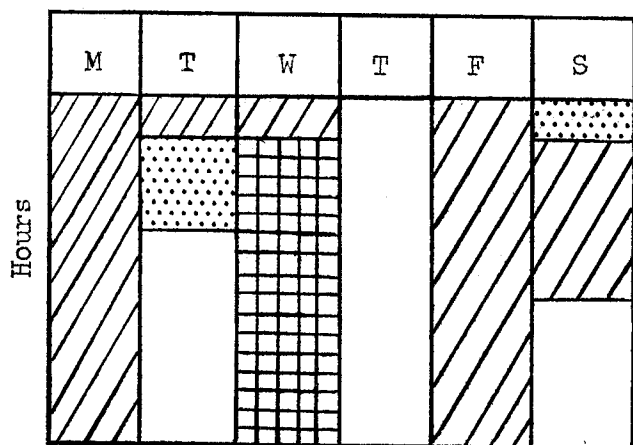
Weekly Time Schedule, Phase I



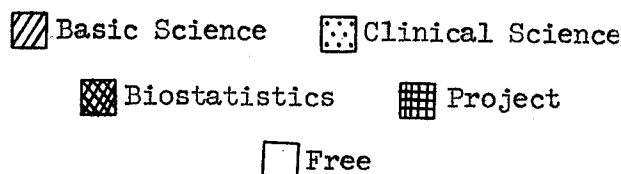
Sept. 22 - Nov. 8



Nov. 10 - Jan. 31



Feb. 2 - May 30



Integrated with this laboratory problem are sessions of didactic material given in lectures, movies, or discussion groups. This material is divided into five areas.

First there is a short period considering the emotional nature of man. It is then followed by a consideration of the interview and the patient-physician relationship as preparation for the first contact with the mother. The third area deals with the milieu in which the infant grows, and the fourth with physical examination.

Physical examination correlates with the basic science material. It starts at the time the nervous system is being considered, and follows through with the circulatory, respiratory, and digestive systems. There are ten two-hour sessions devoted to physical examination.

The fifth area is concerned with the personality, growth and development of the infant.

Preceptors work with the students in the clinical science program. One preceptor works with a group of eight students throughout the first year. He attends all lectures in the clinical science portion, sees all the movies, meets once a week with his group of students to discuss their problems, and stands as an example to the student throughout his first year while he is being introduced to the patient-physician relationship.

There are four parts of Phase 1 which contribute to starting the student in a process of self-education. First, a familiarity with medical literature. During the first seven weeks the librarian meets with groups of twelve to fourteen students one hour each week, to discuss such things as the cataloging of books, abstracts and indices of medical and basic science material, treatises, and the journals of medicine and basic science areas. Between these sessions the students work out problems so that they will become familiar with the literature by using it.

The students have five hours each week during the first seven weeks to consider biostatistics as one method of scientific critique. The idea is not that the students will become biostatisticians, but rather that they will be familiar with the value of a control and the relative difference between two sets of data.

In order that the student may be familiar with the methods which are used in obtaining much of the material that is presented to him in the basic science area, it is felt that each student should have a chance to work on a project so that he will learn to use the literature, to develop a hypothesis, to design an experiment that will test the hypothesis, to do that experiment, to collect the data, to evaluate it, and to present it to his colleagues. Therefore, during the second half of the year one day each week has been reserved for project study.

The curriculum at Western Reserve in previous years, has been such that the initiative of the student has had little chance to develop. The student has gone to classes from nine in the morning until five in the evening, five days a week, plus a half day on Saturday. There was little time to do anything else. On those occasions when there was free time, it was arranged as an hour here or an hour there, and the first reaction was to play bridge until the next class came along.

Therefore, a definite effort has been made to give the student free time in which he can develop his own interests on his own initiative. A day and a half, Tuesday afternoon and all day Thursday, is scheduled throughout Phase 1 for this purpose.

In connection with this, a tutorial or advisory system has been organized. Each student selects a tutor who may be consulted for advice regarding the use of free time.

There are two aspects which Dr. Ham has mentioned which are particularly pertinent to carrying out Phase 1, and were considered essential for the success of the program. One of these is environment. In 1951-1952 the freshman students had sixteen examinations during the first year. The sophomore students had thirty examinations during the second year. The latter is an average of one examination every week. The motivation under this system was quite clear. As soon as one examination was over, it was time to start getting ready for the next. Examinations represented a series of hurdles.

In order to change this environment, the subject of examinations and grading was reconsidered. In Phase 1 there are two types of examinations—first, the interim examinations of which there are four, and secondly the comprehensive examination scheduled at the end of the year.

The interim examinations are given anonymously, and grades are not recorded against a student's name. The answers to questions are graded either "Satisfactory" or "Unsatisfactory" and returned to the student. In this way the students can evaluate their performance, and the faculty can determine what they have been able to accomplish.

The comprehensive examination at the end of the year, will be graded and become part of the student's record.

The second item which is considered essential for the success of the program is the multi-discipline laboratory, where the student can carry out the experiments designed by subject committees. Furthermore, this laboratory provides the student with a home base where he can do experiments during his free time, if he so desires.

The curriculum is actually a small but important facet of medicine, and if it is to fulfill its function in the best way it should help to produce good doctors, those with adequate knowledge and skill, with the proper attitude toward man as a whole, and with habits of self-education which they can carry on through an active career.

At Western Reserve School of Medicine we have instituted certain changes which we hope will bring about the desired objectives. The initial plan undoubtedly will have to be modified as we learn by doing, but it is felt that the over-all approach will provide an opportunity for the students to get the proper start on their individual missions in medicine.

DISCUSSION

Dr. Wearn: If there are any questions that anyone would like to ask of the panel, we will be delighted to answer them.

Question: I would like to ask how much increase of budgetary finances is involved in all schools manipulating their educational program in this fashion. There are a tremendous number of faculty people involved. How much is it going to cost?

Also, are we losing sight of the integration of homeostatic mechanism that is seen from the functional viewpoint by a physiologist and a chemist, each of those viewpoints being presented simultaneously but separately?

Dr. Ham: I do not think we know yet. One fact is apparent, however. There are only so many teaching hours in a year, or about 1,200 hours, and if one keeps a ratio of, approximately 1 member of the faculty to 16 students for the basic science, and about 1 to 8 for clinical preceptorships, a calculation can be made of faculty requirements and costs.

The faculty has been supplemented by men who have not been doing much teaching because of a particular assignment or activity such as laboratory service or research.

Also, fourth year medical students, and Ph.D. students have taught a significant amount in the first year. Careful records are being kept of the teaching requirements and costs so that they may be reported as part of the experiment.

Dr. Wearn: In regard to the question about the budget, it was anticipated that during the year of transition, for instance, we had to teach two classes in physiology, and in each year of transition an increased expense would be incurred by having to have additional members. That was supplied in the grant and was planned for originally to take care of just that. We will try to give you an answer later on how many of these have to be kept, or whether any of them have to be kept.

Wm. F. Ferguson, M.D. (Augusta): The biochemist and physiologist look at the organism as a whole, from the point of view of their discipline. When you look at a kidney one week, and at the muscular system another week, how do you get the over-all viewpoint of the biochemist and the physiologist as to the organism as a whole, from the point of view of his own discipline?

Dr. Patterson: In other words, how does one emphasize the particular techniques of biochemistry or physiology with their particular approach to a problem?

I think there is a difference here, in the sense that each department no longer has a solid block of hours. However, the physiologists still participate in the teaching, and the biochemists still participate in the teaching, and they still emphasize their own particular approaches to a problem.

However, the departments also cooperate in the presentation of various experiments. One experiment, for instance, in the digestive system—where the physiologist is interested largely in motility—has been designed and is done on a dog. The action of secretin is considered, and the secretions of the stomach, gallbladder, and duodenum are collected.

This might have been the end for the physiology experiment but it goes further now, since each of these secretions is analyzed for enzyme activity. This enters the biochemical field.

Accordingly, in one experiment, there is the possibility of correlating the discipline of physiology, biochemistry and anatomy. I do not feel the particular approaches of the different groups are being lost. They are being given in a different way.

Dr. Ham: Also, for such subjects as the biochemistry of the sources of energy of the cell, the same men who taught it before are teaching it now but they are joined by microbiologists and also by histologists. The leadership, however, came from those who had done it before,

with added colleagues including an M.D., particularly interested in the subject.

The basic discipline has been maintained, but along with it have come colleagues who are interested in other aspects of the same field. The same faculty persons taught this year who taught the year before, and have found the student able to receive these several approaches at the same time.

Victor Johnson, M.D., Rochester, Minn.: In general, what is the place of lectures of the traditional nature to the entire class in the new program?

Dr. Patterson: We have taken the viewpoint that each subject committee is in complete control of the presentation of material assigned to it. There has been a fair amount of variation from one subject committee to another. There are still a large number of lectures given. There are perhaps more discussion groups than there were previously.

John Romano, M.D., Rochester, N. Y.: May I ask why the concepts of basic and clinical were used in Phase 1? I understand that "basic" related principally to the physical and the biologic sciences, and "clinical" related to psychology and the social sciences, and certain exercises in perception of how to examine the patient.

It seems to me that if the adjective "basic" is used, one might ask what it is basic to? Is it basic to the study of man in the abstract, or man in intrahuman terms? Is the term "clinical" used essentially in the study of man as a social animal? In other words, is this bi-polarity which is being used, going to perpetuate the polarity which has plagued medicine for the past 100 years?

Dr. Caughey: We started out with the Phase 1 Committee, and it became quite apparent that it was going to be very difficult to correlate the teaching that we wished to do in the clinical field with the teaching that was going to go on by the biochemists, physiologists, and others.

The kind of data available, the methods of approach, have not been as well worked out from the point of view of first-year medical students in this clinical field as they have been in biochemistry, for instance. I feel personally that it is a great mistake to have this distinction continue as we go beyond the first year. I would like to see disappear the separation between the so-called basic and clinical so that the whole teaching program will be unified as we get to the area where we can do more of correlation between biochemistry and psychology, let us say, in the Phase 2 and Phase 3 programs.

Dr. Patterson: In the basic science presentation there is provided approximately 1.5 hours per week, when the subject committee itself presents a correlation clinic, with clinical material. The emphasis is on principles of the basic science subject that is being considered. Perhaps this is a matter of semantics, as to the use of the words "basic" and "clinical."

Dr. Ham: Dr. Romano is raising important philosophic points. We must avoid a bi-polar approach and incorrect semantics.

The term "clinical science" has been used to indicate the scientific approach to the problem of the patient, namely, discrimination, evaluation of data, the develop-

ment of a hypothesis, and subjecting it to test. Possibly the terms biologic and clinical sciences would be complementary and avoid separation.

Donald G. Anderson, M.D., Chicago: Dr. Wearn, you mentioned in your initial introduction the greatly increased use of the library by the students, which has come about through this program. I wonder if you can tell us of any other appraisals or measurements of student reaction or student response to this program that would be of interest to us.

Dr. Wearn: I would like to tell you of one single one, and then let Dr. Patterson try. I have an individual who comes to see me. After seeing the delivery of the mother, and the child coming into the home, this student came in very excited after three visits, and said, "This is what I found: There was a ten month old baby when the second one was born. The father has been out of work for over a year. He is an alcoholic. During the last nine months the mother has slept with her other baby, the ten month old child, in the bed. The husband has been sleeping on the floor in the living room. One week after the new baby was born the husband's family brought some children to see the new baby. One of the children who came in had been a patient in a tuberculosis ward at City Hospital. They have already found a positive patch test on the ten month old child."

This first year student had picked up all of that on her own, and had been to see various people about it. The curiosity that had been aroused already had started her getting in touch with certain agencies, and one of the first things she was looking up was, "Can a person with active tuberculosis just leave a hospital when they want to, whether they are told to or not?"

That is a reaction in a first year student that I think is pointing somewhere. Dr. Patterson, what else would you like to add?

Dr. Patterson: The major thing we have noticed in regard to the present class is illustrated by the fact that the upper classmen feel the first year students are treated differently, and have a different attitude. They now call them "Phase 1 cadets." The attitude of the present class is quite startling.

In designing new experiments the subject committees have not always calculated the time requirement accurately.

One experiment which was presumably going to end at six o'clock finally ended after ten o'clock because some of the students elected to stay and finish the work. In another experiment mutants of *E. coli* were produced by ultraviolet radiation. Eight students decided to continue working with the mutants during their free time. One student worked a good part of his Christmas vacation, and two others worked some forty-eight different mutants.

The attitude of the class is quite different. In the clinical science subsection they have gained something from the prolonged contact with the preceptors. I think the introduction of the clinical material in the first year takes advantage of the strong feeling which students have when they first came to medical school—the desire to start working with patients.

They no longer consider the first and second years as being a hurdle that must be jumped before the study of medicine can begin.

Dr. Weiskotten: Thank you, Dr. Wearn and the other members of the panel. I am sure most of those present in this room are as greatly thrilled as I am by this presentation. I think there is so much we can carry away with us, and I realize you have no idea of a solution to this at the present time, and I am also sure that the paucity of discussion and questions is on the same basis that you were on in connection with the initiation of this program.

You must remember that you gave it years of thought and study before you initiated it, and those of us who are having it presented for the first time will want to do a great deal of thinking about it. There are many things to think about.

First, there is the objective of the undergraduate curriculum in the medical school. What are the objectives? What are the objectives of the various departments in the medical school? How can these objectives of the various departments be best fitted within the time limits available, into the common objectives of the medical school?

You have called attention to certain sound fundamental principles of education on which you are basing your whole program. Those are things we can be thinking about in connection with our own program. I think you are to be congratulated that you have had the support and also the temerity to approach this problem of integration as a school in its entirety, involving all the departments of the school. Having been associated with teaching in medical schools for about half a century, I can imagine the problems you did have with all the various departments.

We will all be watching with great interest the further development of this program, and will constantly be keeping in mind what apparently successful aspects of it can be incorporated into our various programs throughout the country. It may very well be that we are entering into a new phase in the development of medical education, if I may adopt your term "phase."

I am really greatly thrilled by this presentation, and I am sure the medical educators in general feel the same. I would like to congratulate the Commonwealth Fund on their willingness to support this project. It probably is one of the most promising experiments in medical education that has even been initiated in this country.

MONDAY AFTERNOON SESSION, FEBRUARY 9, 1953

Harvey B. Stone, M.D., Presiding

THE FIRST WORLD CONFERENCE ON MEDICAL EDUCATION

Louis H. Bauer, M.D., New York

One of the aims of the World Medical Association is the improvement of medical education. At the fourth General Assembly of the association in New York, in 1950, preliminary thought was given to the holding of the first World Conference on Medical Education. At the fifth General Assembly in Stockholm in 1951, it was definitely determined to hold such a conference. To quote Dr. Hugh Clegg,¹ the editor of the *British Medical Journal*, "After all, medical education is fundamental to our professional life and work. Without medical education the people of the world would still be at the mercy of the witch-doctor and the cultist; many of them, of course, still are. Perhaps it is because the subject is so vast that doctors have so far fought shy of staging an international discussion on it."

Again Dr. Clegg¹ said, "Now, then is the time to take stock. Medicine, still an art, has become so much more a science. Has medical education in its conceptions and methods, kept pace with the advances of medical science? I doubt it, for the reason that medical education must perforce be in the hands of doctors educated and brought up in a setting entirely different from that of today. This generalization, like any other, is bound to be too sweeping. In some centers innovation and experiment must be going on; in others tradition probably has too strong a hold."

The announcement of the conference aroused tremendous interest all over the world. Letters were written to the deans of all medical schools asking what problems they would like to have discussed. While a great variety of topics were suggested, there was a remarkable unanimity of desire to see certain topics discussed. Considerable discussion took place as to the scope of the conference. It was decided to limit it to the problems of undergraduate medical education. The term "undergraduate" is used in the sense in which we interpret it in the United States. Three main themes were considered, and then these three were expanded to four. They are: (1) requirements for entrance into medical studies; the selection of students; (2) aims and content of the medical curriculum; (3) techniques and methods of medical education; and (4) preventive and social medicine (by "social medicine" is meant what the British call "human ecology").

The conference will be held in London, England, Aug. 22 to Aug. 29, 1953. Headquarters will be at the British Medical Association House. Aug. 22 and 23 will be devoted to registration and a general get-together. The conference will formally open with a plenary session on Aug. 24. This session will serve as a background and orientation for the conference. On Aug. 25, 26, and 27, the conference will break up into four sections, one section being devoted to each of the four main themes already listed. On Aug. 28 and 29, there again will be plenary sessions to bring together the thoughts developed in the sections.

The conference will be under the auspices of the World Medical Association, with the collaboration of

Secretary General, The World Medical Association.

1. Clegg, H.: First World Conference on Medical Education, *World M. A. Bull.* 4: 241, 1952.

the World Health Organization, the Council of International Organization of Medical Sciences, and the International Association of Universities. It will be under the patronage of the secretary of state for Scotland, the ministers of education and health for England and Wales, and the chancellor of the University of London.

The president of the conference will be Professor Sir Lionel Whitby, vice-chancellor of the University of Cambridge and Regius Professor of Physics. The deputy president will be Prof. W. Melville Arnott, professor of medicine at the University of Birmingham. Four vice-presidents have been chosen, each to preside over one of the sections. Section I will be presided over by Dr. Victor Johnson of the Mayo Foundation and the Council on Medical Education and Hospitals of the American Medical Association. Section II will be presided over by Sir Arcot Mudaliar, vice-chancellor of the University of Madras, India. Section III will be presided over by Dr. A. Hurtado, professor at San Marcos University, Lima, Peru. Section IV will be presided over by Prof. René Sand of the Université Libre, Brussels, Belgium.

The opening plenary session will be devoted to the following topics:

The Challenge to Medical Education in the Second Half of the 20th Century.

What is Education?

The History of Medical Education.

Medicine—a Technology or a Profession?

Some of the topics to be discussed in the four Sections are as follows:

In Section I (Dr. Johnson's Section)

General Education in an Age of Science.

Requirements for Entry into Medical School.

History of Science.

Teaching Scientific Method.

Science is Measurement.

Biology Fundamental to Study Medicine.

How Much Chemistry and Physics?

Introduction to the Social Sciences.

Selection of Students.

Use and Value of Intelligence and Aptitude Tests.

Method and Value of Interviews.

Examination and Discussion Group.

In Section II (Sir Arcot Mudaliar's Section)

Anatomy for the Doctor.

Physiology for the Doctor.

Physiology and Anatomy Taught as One Subject.

Pathology—The Basic Clinical Science.

Pharmacology and the New Therapeutics.

Aim of the Medical Curriculum.

Teaching of Psychological Medicine.

Teaching of Medicine and Surgery as One Discipline.

Teaching of Minor Surgery.

The Doctor, the Midwife, and Obstetrics.

Is Pediatrics a Branch of Medicine?

The Place of Specialties in the Curriculum.

Is an Intern Year Necessary?

The Undergraduate and General Practice.

The Balanced Curriculum.

In Section III (Professor Hurtado's Section)

The Hospital Bedside Teaching of Medicine.

Teaching Surgery at the Bedside and the Theatre.

Teaching in the Clinic.

Teaching in the Home.

The Clinico-Pathologic Conference.

The Laboratory in Teaching Experimental Medicine.

Visual Aids in Education.

One-Way Observation Screen.

The Moving Picture in Medical Education.

The Still Picture.

The Lecture in Education.

The Value of Group Discussion.

The Text Book in Education.

Library and Reference Services.

The Museum and the Scientific Exhibition.

The Students' Clinical Society.

The Examination Paper.

Practical Tests.

Oral Examination.

Teacher's Report on Work.

Why Students Fail.

In Section IV (Professor Sand's Section)

Present Status of the Teaching of Preventive and Social Medicine.

Social Medicine as an Academic Discipline.

Teaching Social Medicine in the Pre-Clinical Period.

Social Medicine in the Clinical Period.

The Need for Reorientation of Teaching.

The Teaching of Epidemiology.

Demography and Vital Statistics.

The Teaching of Medical Genetics.

The Teaching of Social Psychology.

Social Environment and Individual Illness.

Social Case Discussion.

Teaching of Occupational Health.

The Use of Student Health Services in the Education of the Student.

Infant and Child Care as a Medico-Social Problem.

The Teaching of Nutrition.

Integration of the Teaching of Social Medicine in the Medical Curriculum.

In the final two days of plenary sessions there will be reports of the vice-presidents and rapporteurs on the results of the section meetings. The general topic will be "Has Medical Education Kept Pace with the Rapid Development of Medical Science?" Topics will be presented in prepared papers, by discussion by selected participants, and by general discussion. Throughout the sessions of the conference a determined effort will be made to bring out a free exchange of ideas, to develop ways and means of assisting underdeveloped countries, and to gather the opinions of practicing physicians—the ultimate consumers of medical education. No attempt will be made to adopt any resolutions. Simultaneous translation into English, French, and Spanish will be provided throughout the conference.

A special issue of the *British Medical Journal* will give background material and will be distributed at the

time of registration. After the conference the proceedings will be published. If funds permit, a permanent committee will be established to send technical advisors to countries deserving assistance. This, however, is only a pious hope at present. Presentation of material that allows countries to compare standards is helpful, but a "follow-through" is necessary if the standards of medical education are to be raised anywhere in the world.

Invitations have been sent to all medical schools, national and international bodies interested in medical education, government representatives, and outstanding educators. Any physician may attend the conference. A reception will be held the day before the conference officially opens. The evening before the conference closes there will be a dinner. At some time during the conference there will be a break to permit visits to educational institutions or places of historic interest. The United States Committee of the World Medical Association is planning a tour for Americans. This will include the Medical Education Conference and the seventh General Assembly of the World Medical Association, which will take place at the Hague, Holland, the following week.

The headquarters of the World Medical Association at 2 East 103rd Street, New York 29, N. Y., will be glad to furnish further details as they are decided. I hope there will be a large delegation from the United States attending what I believe will be an outstanding event in the history of medical education.

PANEL DISCUSSION: THE INTERNSHIP IN MODERN MEDICAL EDUCATION

REPORT OF THE ADVISORY COMMITTEE ON INTERNSHIPS

- Victor Johnson, M.D., Director, Mayo Foundation for Medical Education and Research, *Moderator*.
- S. Howard Armstrong, Jr., M.D., Professor of Medicine, University of Illinois College of Medicine.
- Granville A. Bennett, M.D., Professor of Pathology, University of Illinois College of Medicine.
- U. R. Bryner, M.D., President-Elect, American Academy of General Practice.
- John C. Leonard, M.D., Director of Medical Education, Hartford Hospital.
- Edward H. Leveroos, M.D., Associate Secretary, Council on Medical Education and Hospitals, American Medical Association.
- John McK. Mitchell, M.D., Dean and Professor of Pediatrics, University of Pennsylvania School of Medicine.
- John R. Paine, M.D., Professor of Surgery, University of Buffalo School of Medicine.
- John Romano, M.D., Professor of Psychiatry, University of Rochester School of Medicine and Dentistry.
- J. Robert Willson, M.D., Professor of Obstetrics and Gynecology, Temple University School of Medicine.
- John B. Youmans, M.D., Dean and Professor of Medicine, Vanderbilt University School of Medicine.

This panel discussion was devoted to a review of the report of the Advisory Committee on Internships. It is referred to by title only. The complete report of the Committee is available in reprint form and can be obtained by addressing the Council on Medical Education and Hospitals, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill.

PANEL DISCUSSION: THE CONTINUING IMPACT OF THE NATIONAL DEFENSE PROGRAM ON MEDICAL EDUCATION

- Donald G. Anderson, M.D., *Moderator*, Secretary, Council on Medical Education and Hospitals, American Medical Association, and Secretary, Joint Committee on Medical Education in Time of National Emergency.
- Brigadier General Louis H. Renfrow, Deputy Director, Selective Service System.
- Stockton Kimball, M.D., Dean, University of Buffalo School of Medicine, and Chairman, Joint Committee on Medical Education in Time of National Emergency.
- Harold Diehl, M.D., Dean of Medical Sciences, University of Minnesota Medical School.
- Colonel Paul Armstrong, Illinois State Director, Selective Service System.
- Paul C. Barton, M.D., Executive Secretary, National Advisory Committee on the Selection of Doctors, Dentists and Allied Specialists, Selective Service System.
- Colonel William W. Roe, Jr., Armed Forces Medical Policy Council, Office of the Secretary of Defense.
- Colonel Harold W. Glattly, M.D., Office of the Surgeon General, United States Army.
- Rear Admiral C. J. Brown, M.D., Deputy Surgeon General, United States Navy.

Dr. Anderson: The purpose of this panel is to bring information that may be of interest to you. Secondly, to answer questions about the impact of the national defense programs on programs or individuals in programs with which you are concerned. Third, where we cannot answer questions to at least point up problems that need further study in the hope that answers can be found for them. General Renfrow, I would like to ask whether there is any likelihood of any change in the student deferment program either for the premedical students or more specifically for the medical students.

General Renfrow: It has been the policy and will be the continued policy with regard to preprofessional students to defer a sufficient number of students to keep the medical schools filled to capacity. That has always been and will be the policy of Selective Service, and we will work with the Advisory Committee and all others in that regard.

As to professional students, there has been some discussion relative to a change in the test scores on all student deferments. There will be some discussion later on in the month in that regard, but as far as professional students are concerned, I do not anticipate that there will be any change in the test score, maybe a few points but nothing to make any difference.

However, the policy of deferring those students who are in medical school and doing satisfactory work, so stated by the deans, will be continued as in the past. I think you have no worries as to student deferment.

The question of internships has always been and will continue to be one of deferring those who are in internships.

The question of residents has to do with those who are declared essential or not available by the Advisory Committee to the local boards, and at this point may I say that it is highly essential that when you are asking that a resident be deferred because of essentiality you put that reason in writing in the record of the local board. Thus, if an appeal is taken by the state director to the appeal board or by the national director, the record is clear to the appeal board who will not have knowledge of any verbal conversations that you may have had. If you will

do that it will make it much easier in the handling of residents in your hospitals.

There is one thing that I do want to point out about admitting students to medical schools. As you know, students are now being deferred in college, in pre-professional and all other college courses, on the basic test scores or their class standings. The test score is 70. The class standing for a freshman is the upper half, for a sophomore it is the upper two-thirds, and for the juniors it is the upper three quarters. For professional students it has been 70 or the upper half for entrance into medical schools. Those test scores or their class standings are highly important to you.

Why? Before you admit a young man into medical school you should ascertain how he stands in his pre-professional work, because he may be in difficulty even after he is admitted. The local board may have reclassified him in 1-A by virtue of his failure to qualify for either the test score or his class standing. That is the one thing that I would like to impress upon you today in your admissions work; that is, to study both the boy's test score and his class standing so that you are sure he has one or the other when you admit him to the medical school.

Dr. Diehl: General Renfrow, you stated that to be eligible an individual must be in the upper half of this class. Does that apply to all his premedical work or to the year before admission to medical school?

General Renfrow: To his senior year, as far as the professional student is concerned.

General Renfrow: Concerning alien doctors, may I say that there has been a new situation regarding aliens. The Department of Defense, with approval of the Army and Air Force, and this does not apply to the Navy because it is prohibited by law to do this, has now agreed to commission any alien physician whether or not he has applied for citizenship or made his first intentions known to become a citizen.

Alien doctors are now eligible for commission if they are qualified in all other ways, professionally and personally, even though they have not filed their intention to become citizens as yet. That is a change in policy with the Department of Defense, in concurrence with the Army and Air Force, which will relieve some of the situations regarding alien physicians.

Dr. Diehl: What is the obligation relative to Selective Service of a Canadian physician who comes to this country for an internship expecting to go back to Canada? Second, what is the obligation of one who comes to this country for a residency and expects to go back to Canada, who did not come here expecting to become an American citizen?

General Renfrow: He is in the same situation as any other alien who comes to the United States on a visitor or student visa. He is not required to register with Selective Service, nor is he required to serve in the United States Army, Navy or Air Force. He is here on a visitor's visa and as a resident or intern he then returns to his native land. If he comes here as a resident, however, on a permanent visa he is subject to the provisions of the law.

Dr. Barton: General, you spoke about the fact that the Canadian physician coming into this country was not required to register which is true as far as the regular draft is concerned. As far as I know, Public Law 779 does not exempt him from special registration.

General Renfrow: In that particular age group that is true; but as a regular registrant he is not subject to the provision of the law. He comes in under a visitor's visa.

Question: Assuming there are 1,000 students in the senior class and 200 of them are premedical, does the student have to be in the upper three fourths of the 1,000 or the 200?

General Renfrow: Of the male students in the entire class.

Dr. Anderson: I have before me a clipping and I shall read only the first sentence. The date line is January 31. It says: "The President's Health Resources Advisory Committee is expected to recommend a speed up of medical school courses to get more doctors trained for the Armed Forces. This will bring medical opposition from the deans of medical schools who fear that medical education will be set back." Dr. Barton, you are the Executive Secretary of the President's Health Resources Advisory Committee. Would you tell us what the facts are in this case?

Dr. Barton: There has been no discussion in any meeting of the Health Resources Advisory Committee about acceleration. The only reference the Committee has ever made to acceleration was in connection with a paper presented here two years ago by Dr. Rusk, Chairman, in which he pointed out that that could be one of a number of solutions for increasing the number of physicians. I do not think the word "acceleration" has been mentioned by the Committee at any time in the subsequent two years.

Dr. Anderson: Because this probably is the most immediate problem concerning most of you here, we might consider the present status of physicians in Priority III. I will ask the various members of the panel to give us their understanding of the present status of this group of physicians and the prospects for the immediate future. Dr. Kimball, would you mind starting out by pointing up two or three of the problems as they affect the medical schools with respect to the priority III group?

Dr. Kimball: I will be glad to, and I hope others will state what the procedure will be for dealing with this problem or what the procedure is now.

As you will remember, there was a resolution passed at the fall meeting of the Association of American Medical Colleges requesting the National Advisory Committee to the Selective Service System to establish a continuing procedure wherein those most vitally concerned with medical education may advise on a desirable revision of present procedures and on any new laws concerning drafting physicians.

Members of the Joint Committee, at the invitation of the Health Resources Advisory Committee, had a meeting on December 19, 1952, at which was discussed among other things the need for a stabilized program on faculty and hospital resident deferment and entrance into service. It was the recommendation that there be established a committee, national and perhaps regional, of repre-

sentatives of medical schools who could be advisory to state advisory committees on the status of faculty members.

A local advisory committee is supposed to be made up of peers who, on the basis of experience, may judge essentiality of medical men. That is true in relation to practice. It has been proven by experience to be untrue in certain sections of the country relative to faculty deferment. However, at least temporarily, another procedure was recommended which Dr. Diehl or Dr. Barton might speak about.

Dr. Diehl: The maintenance of adequate teaching faculties is essential for good medical education. Fortunately, up to the present time calls to military service have made but minor inroads upon these faculties. The surveys of medical school faculties made by the Health Resources Advisory Committee indicated that only 3% were in priority I and II and 2% were in priority II under the special "Doctor Draft Act." On the other hand, we find that 19% of our medical faculty members, on the full time equivalent basis, are in priority III. This survey also shows that of the group who are doing most of the teaching, that is, teaching 1,000 hours a year or more, 62% are under age 40 and 84% are under 50 years. Of those devoting 1,000 hours per year or more to research, 70% are under 40, and 80% are under 50 years of age. It is obvious, therefore, that when Selective Service begins to call Priority III physicians into service, the problem of medical school deferments will become vastly more important and more acute than it has been in the past.

Incidentally, Selective Service will issue its first class for Priority III physicians in the month of March. This first call, however, is limited to those under 30 years of age.

The problem of obtaining deferments for essential medical teachers seems to vary in different parts of the country. In some places the attitude of the local medical advisory committee seems to be that everybody on the medical faculty should be considered available for military service. In other sections of the country, the medical advisory committees and the medical school deans have a very satisfactory, reasonable working relationship.

Following the meeting in Washington of which Dr. Kimball spoke, the National Advisory Committee to Selective Service sent a memorandum to all state advisory committees directing that deferments of staff members of medical schools, veterans' hospitals, state health departments and state mental hospitals should be handled directly by state committees instead of by the local committees in which the school or hospital happens to be located. The reason for this directive was that no medical school, veterans' hospital or state health department is a local, municipal or county institution. In the State of Massachusetts they have been functioning on that basis during World War II and during the present deferment program. We believe that will be helpful.

If a satisfactory decision is not arrived at by that procedure, an individual dean may, and if he feels that he has sufficient justification he should, appeal to the National Advisory Committee for review of the case.

On this subject, I should probably add one more observation. That is, that the policies of medical school

deans, as they come to us in Washington, vary at least as far as if not further than the policies of the local advisory committees. Some medical school deans seem to ask for everybody to be deferred while others request no deferments. A reasonable and realistic policy is somewhere between these two extremes.

Dr. Anderson: We all know that most Priority III physicians have had physical examinations in the last few months and I believe there is some question as to just what the reason for ordering those examinations was, and what the status is of the results of those examinations. Is there some member of the panel who could clear that up for us?

Col. Armstrong: The reason for ordering the Priority III physicians for physical examination was to ascertain how many of those physicians would be physically, mentally, morally and professionally acceptable for military service. In other words, we had to survey the pool to find out just how many might be acceptable if they were subsequently declared available for service.

Dr. Anderson: How long is that physical good for?

Col. Armstrong: Indefinitely, but a final physical checkup will be made when the man enters the service. I might say that we have had a lot of complaints in Illinois from doctors who are badly frightened the minute they get a notice from their local board to report for a physical examination. They should not be worried about that because they might even be in 4-F and be under order for reexamination purposes.

It takes quite a long time to process these men. The fact that they are physically examined does not mean that they are actually going to be finally inducted into the military. That will depend on the determination of the Army as to their professional abilities and certain other factors that the Army takes into consideration. They do have and will have their rights of appeal, and I would say that all doctors, in fact all registrants, should understand the rights they have coming to them under the law.

Dr. Anderson: Most Priority III physicians last fall were sent cards indicating that they were in Class 1-A before they had been examined, before there had been any special consideration of the individual's activities. As I understand it, an individual or his employer may appeal a 1-A classification, and must do so within ten days of the registrant's being mailed a notice that he is in 1-A. I think very few, if any, physicians or their employers, referring to deans or chiefs in the medical schools or hospitals, entered any appeal at that time. What is the status of those men as far as further appeal is concerned?

Col. Armstrong: The regulations provide that the registrant or his employer have a period of ten days after the mailing of the notice of classification in which to appeal. Employers, and I am speaking of the deans and heads of hospitals and others who might employ doctors, should immediately survey their list of people. They should determine whether or not each doctor is going to be essential, and whether or not they are going to request his deferment. If they consider a man essential, they should place in his Selective Service file at the earliest possible date, before he has been classified in 1-A, a full statement as to their need for that particular physician.

The reason for doing this before he is classified in 1-A is that the regulations specifically provide that an employer has certain rights of appeal if he puts the information in the file prior to classification in 1-A. If the registrant is classified in 1-A and no statement from the employer is in the file, the employer does not have the right of appeal. He may, of course, present information to the local board; they will accept it and it will be placed in the registrant's file, but the employer has no right of appeal unless he has requested the registrant's deferment prior to the classification in 1-A.

The registrant himself, of course, has the right of appeal within ten days of the mailing of his Notice of Classification. Likewise he may request a hearing before the local board. Only the registrant has the right to a hearing, but he must request it within ten days of the mailing of his Notice of Classification in 1-A. At the time he files the request for a hearing within the allotted time period, he should at the same time include a request that his case be forwarded to the appeal board for consideration after he has had the hearing. In that way he protects all of his rights.

Dr. Anderson: Does that mean that all these men who are in 1-A, who took no action and whose employers took no action, will have no possibility of reconsideration of their cases, or is there a mechanism whereby their cases may be reevaluated?

Col. Armstrong: They have no right of appeal, but this can be done and should be done. A local board has the right, when new evidence not previously considered is received before the order for induction is mailed, to reopen and reconsider a case if in the board's judgment the evidence warrants it.

The government appeal agent of the local board has the right to take an appeal up until the time the registrant is ordered for induction. Of course, the State Director can appeal. The state medical advisory group sometimes gets a request for appeal and brings it to me and we consider it. All state directors have the power to appeal any case, reopen it, or postpone it, up until the time the man actually takes the oath of office in the Armed Forces.

Dr. Anderson: You have brought out what I wanted brought out. The state medical advisory committee can call a case to the attention of the State Director of Selective Service.

Dr. Kimball: As I understand it, the dean of the school can request that the case be reopened and considered anew. That request should be made to the State Director of Selective Service and not to the local board. Is that correct?

Col. Armstrong: That is correct. He has no right to appeal directly to the local board after his period of time has expired, but he may request the government appeal agent for that particular board to look into it, or he may present it directly to the state director of his particular state.

Dr. Anderson: There have been some statistics compiled that might be of interest about this pool of Priority III physicians. I believe those statistics have been collected primarily by Selective Service, but also have been reviewed by some of the other departments. I wonder if

any one or more members of the panel would sketch briefly the analysis that has been made of this Priority III pool as far as their age and physical acceptability for service are concerned.

Dr. Barton: An analysis has been made—a complete breakdown of Priority III and also Priority IV—which highlights some rather interesting features of this group.

One is that there is a relatively small percentage of physicians in this group under the age of 36, which is the group being called now. Let us say there are about 8% of them under 30, and maybe 15% at the most of the total group under 35. This group is not particularly productive. It does not represent a great number of physicians, possibly 5,000 or 6,000, and the thing you have to keep in mind is that a lot of these men are the ones who were physically disqualified during the war, which is why they have had no service. They still may be physically disqualified.

We must remember that there are a lot of them who will be found in essential positions, particularly as we get into the group 34, 35 or 36 years of age. The question is just how productive this particular group would be. Nevertheless, I think it is reasonable to presume that between now and the termination of this law on June 30, it will not be necessary to go beyond the age of 36 in Priority III.

I would like to add a few more statistics in regard to the classification of the hospital staff at the present time; that is, your interns and residents as of July 1 of this year in comparison to July 1 of the preceding year and July 1 of the year before that. If you take those in Priority 1, the figures in those three years drop from 4,200 to 2,200 to 1,200. These figures include interns. Otherwise, they would drop to a much lower figure. In Priority II it drops from 1,500 to 1,200 to 900, and in Priority III it drops from 3,400 down to 3,000. We have not gone into Priority III yet.

I think one of the most interesting things that developed in that data is the fact that before Korea there were approximately 22,400 interns and residents. A year later that number dropped to 22,800, and it is up a little bit this year, to 23,000.

While that has been going on, the citizens have dropped steadily and the aliens have increased. In order not to confuse you with too many figures, I will simply sum up the alien situation in our hospitals by saying that prior to Korea we had one alien to every nine citizens in our hospital intern and resident staffs, whereas today we have two aliens to eight citizens. In other words, we have doubled the proportion of aliens. It has gone up from 2,000 to 4,300 in this two year period, and the effects of that on hospital services where there may be language difficulties and other difficulties are worthy of consideration.

Dr. Diehl: These statistics will further emphasize the point that I made before: namely, that 31% of Priority III physicians are under 40 years of age. On the medical school faculties, 62% of those who carry most of our teaching are under 40. That shows how much greater relative impact calls upon Priority III physicians will have upon medical school faculties than the general physician population. Let me repeat: The percentage of

individuals under 40 years of age on medical school faculties is twice as high as the percentage of Priority III physicians who are under 40.

As the result of this situation, it is clear that policies concerning deferment of Priority III physicians on medical school faculties must be much more liberal than they have been in regard to deferment of Priority I and II physicians.

Dr. Anderson: We would like to discuss one important subject. That subject is a preview, as it were, of the legislation that the Department of Defense probably will support for an extension of the doctor draft. I would like to ask Colonel Roe to give us some of that information.

Col. Roe: In the Armed Forces Medical Policy Council there has been under study since last August, by a committee, revisions to Public Law 779. This committee has had the advantage of a meeting held by the Armed Forces Medical Policy Council to which representatives of all interested civilian organizations and federal agencies were invited. Members of the Council and the staff, also military personnel from the three services, who have attended other meetings, have come back with ideas that they have given this committee and, of course, we have had in the Department of Defense voluminous correspondence from individuals concerning inequities in the law. The committee has attempted to correct inequities insofar as practicable. In the revisions we have tried to clarify certain things that are common questions, clarify details and write them into the proposed revisions. I am not at liberty today to actually read the revision we are proposing because it has not yet been accepted by the Department of Defense as legislation that they will enter in Congress. However, the Council is having a meeting on Thursday and by that time several small details will have been corrected and we will be able at that time to present the legislation in detail to the representatives of the American Medical Association, the American Dental Association, and others who will be at that meeting. However, I would like to point out briefly some of the things we are trying to do in this law.

Actually, the priority of call remains the same as it was under the old law. We do not use the word "priority" but have established two groups of people for call up. The first group is those who have seen no prior active service who will be called according to age, the youngest being called first. That is the present Priority III group.

The second group will be those who have had prior active service. They will be called in accordance with the amount of previous service they have had. Those with the least amount of service will be called first.

There is a stipulation in the law that individuals who under the old law were classified as Priority I or II, and who have been deferred or for some other reason not brought to duty will move to the head of the list and will be called first as they become available.

We have tried to clarify certain things about the word "active" duty by defining what we mean by "active" duty in the law as it is repeated in several places. We are excluding for credit for active duty time spent in the ASTP or V-12 programs. That will be all time spent in any type of ASTP or V-12 programs. Also, any time spent in the military internship or the student training

program will be excluded. We have provided that credit for active duty will be given for those who have had service with any allied force during World War II. That has been a serious point that was left out of the other law.

The matter of commissioning of a licensed alien physician was mentioned. Although we have an agreement on that point in question, we have included an item in the revisions to the law stating that licensed alien physicians can be commissioned in the armed forces.

We have rewritten some of the provisions concerning the duties and functions of the National Advisory Committee. The first is to give them the authority to establish state and local advisory committees. That was left out of the previous law. I think of great interest to those here is what we have tried to provide in this law to protect the resident training programs and the schools' faculties.

In this law we wanted to provide a framework, a basis, on which a sound residency training program could be conducted, and also a basis in the law for the deferment of members of faculties. I am going to read that portion of the law because I am sure it will be presented to Congress in this fashion.

"In the performance of its functions, it shall be the duty of the National Advisory Committee, in conjunction with the state and local volunteer advisory committees, to make determinations with respect to persons in residency training programs who shall be recommended for deferment for the purpose of completing such residency training programs, and in making such determinations shall give appropriate consideration to the respective needs of the armed forces and the civilian population.

"The National Advisory Committee is further authorized to make appropriate recommendations with respect to members of the faculties of the medical, dental and veterinary schools, having due regard to the respective needs of the armed forces and the civilian population."

We feel that this provision provides the necessary framework to protect the residency training programs that the armed forces will need in the future and also that the civilian population will need, and to protect the faculty members of schools.

Other provisions of the law that may be of interest also might be mentioned. First, we have provided for the appointment of individuals affected by the law in grades commensurate with their professional experience, also for the promotion of reserve officers who may be involuntarily ordered to duty. In this respect, we have tried to remove one of the difficulties we have encountered: namely, laws which limit the number of persons in grades that the military departments might have.

At the present time, we have the Davis amendment to the appropriation bill passed during the last Congress, which says that the military departments can have a certain number of first lieutenants, second lieutenants, captains, majors, admirals, or equivalent grades in both services. Because of that it has been difficult in some instances to promote reserve officers who are coming in, ordered involuntarily to duty, who have been inactive in their reserve status and who have not been promoted. The provisions we have included in the bill is that those individuals who are promoted shall be carried as additional numbers in the grade.

Another provision that we have put into the revisions is that any special registrant who is appointed, given a commission as a reserve officer, and who has no other reserve obligation, will have his commission terminated at the time he completes his tour of duty. We have had a great deal of criticism from people who complain that they have been forced into an indefinite reserve status by Public Law 779.

I believe those are the main provisions in which you have an interest. I will be glad to answer any questions that anyone might have.

Dr. Anderson: What will be the age limits for this bill?

Colonel Roe: We did have a rather indefinite status as to the age limit. Prior to the time the assessment of Priority III and Priority IV pools was made, we had hoped that we would be able to lower the age limit of 51 years for obligation for duty, but we find that that is impossible and the age limit we will recommend is the same as that in the present bill.

Dr. Anderson: Colonel Glattly, would you like to comment on this bill or on anything related to it as it may bear on the personnel problems of the armed forces?

Colonel Glattly: I certainly think the committee is to be congratulated for the work they have done. I feel they have corrected the majority of the inequities that did exist in the old Act.

I am having to eat a little crow on this age proposition. Those of you, and there are quite a number here, who have heard me discuss the needs of the armed forces for this procurement act may recall that I made quite a point about the difficulty the armed forces have in absorbing this older age group of physicians between 45 and 50. That is just as true now as it was when I said it.

In looking over the situation carefully, in view of the inventories that have just been completed by Selective Service regarding Priority III and IV physicians, we would be very ill advised at the present time to make any change in the present age level.

Dr. Anderson: In other words, you feel that to meet the needs of the armed forces in the next few years, you will probably go right through Priority III, including those men who are now between 45 and 50?

Colonel Glattly: That appears to be the situation, if we assume a force of approximately the same size as that which we are supporting today medically.

Question: I would like to hear a definition of "Essentiality."

Dr. Anderson: We said there would be some questions for which there would be no answers. That is one of them apparently.

Question: Colonel Roe speaks about a man having had experience. Is that professional service or service in the line?

Colonel Roe: The total military service is just what judges their position in the Priority IV group. In other words, if a physician today had no V-12 or ASTP training during World War II, or was not deferred to pursue a course of education at his own expense, if he served in

any capacity during World War II or up to June 25, 1930, he is in Priority IV.

A surprising thing we found in this assessment was that there are few physicians in Priority IV, relatively few, who have had less than 18 months of prior service. In other words, those with six months' or less service in the Priority IV group make a total of less than 1,000.

In the seven to twelve months' group there are only about 1,200. When you get up to those who had twenty-five to thirty-six months of prior service, you run into 12,000 to 13,000, and those who have had more than thirty-seven months of service total 26,000.

Dr. Anderson: Is it really those figures which explain what Colonel Glattly's change of position on age is?

Colonel Glattly: That is correct.

Question: What about the boy in Priority II who owed nine days who has been reactivated for two years?

Colonel Roe: We have tried to give credit for prior service so that the amount of obligated service can be cut down, in this respect: Under the present law, a physician on duty who served during the World War II years, for twelve months or more, exclusive of ASTP or V-12 service, is obligated for only seventeen months' service instead of twenty-four months' service. We have extended that credit for prior service to include all service up to June 25, 1950.

In other words, any person on duty now, or who will come on duty, who has had twelve months or more of service prior to June 25, 1950, will serve seventeen months instead of twenty-four months. I am speaking in a positive fashion. That is what we are recommending.

Question: Does not that leave a large area of injustice? For instance, the man who served twenty-one months minus nine days, and those nine days depended on how they counted his terminal leave, is asked to go back into the service for seventeen months. I am talking about the Priority I or the Priority II man.

Colonel Roe: We realize the fact that the law was set up that way, and perhaps if more thought had been given to the law at the time it was presented to Congress, people might not have been called to duty in those priorities. However, once having established that and having brought to duty so many people, it is difficult at this time to make a total correction.

Joseph T. Wearn, M.D., Cleveland, Ohio: If a medical school and a large university hospital have a position of an Associate Professorship of Neurology and if the occupant of that position is responsible for the entire teaching of neurology to medical students and house staff, and as an addition, the occupant of that position is responsible for running the electroencephalographic laboratory, and is consultant throughout a university hospital group, it becomes pretty obvious that the position is an essential one. If this position is recognized as essential, as it must be because without the position neurology cannot be taught to the medical students or the house staff and neurological care would not be available to the patient, then the person holding that position is likewise essential if he cannot be replaced. We have several instances in our school and university hospitals where we have been

unable to replace individuals holding essential positions, and if these individuals should be called out teaching would have to stop. When anyone says, therefore, that there is no such thing as an essential person, I do not know what he is talking about, and I doubt if he does himself.

It was clearly seen in World War I and reemphasized in World War II that one of the shortest sighted policies that could be followed was that of crippling the faculty of a medical school by depriving them of men in essential positions where replacements were not available. It seems to me that we should recognize our previous mistakes and do something to correct them.

Apparently there are medical schools with large faculties and numbers of individuals in a given discipline. Undoubtedly, they can spare some of their men. In the small privately endowed institutions, where the faculty is limited, the situation is quite different.

E. S. Hamilton, M.D., Kankakee, Ill.: There are a large number of graduates who will be finishing their undergraduate training shortly who have had a lot of service in the line. I do not understand what you said about application.

Colonel Roe: They are in the Priority IV group. They are not in the Priority III group who will be immediately called to service. All their service in the line or any other component of a military department is creditable for classification in the Priority IV group.

If you have a man coming out of school now who served eighteen months as an enlisted man during World War II, he is in the Priority IV group under the group that has had eighteen months of prior service.

Dr. Hamilton: What is the status of the only surviving son when there has been one death in the family?

Colonel Roe: That is a matter for Selective Service determination.

Colonel Armstrong: That might be a hardship consideration that would warrant the man's deferment. On the other hand, Congress has provided that if a family has a sole surviving son, and one or more brothers have been killed in action or died of wounds, the surviving son shall be placed in Class 4-A and be exempt from service. This applies to a special registrant the same as a regular registrant.

Question: Based upon the current estimates of recruitments requirements for the military forces and the expected number of new graduates who will be available for recruitment, can you give us any estimate of about how long it would take for a 41 year old or a 45 year old able bodied faculty member to be in the service?

Colonel Glatty: I am not quite certain of the intent of your question. Would you like to know how long we will have to operate with a compulsory procurement device like this before the output of our medical schools will equal the requirements of the armed forces?

Question: The question is really one from the point of view of the faculty member who is considered physically able and who is in Priority III. Assuming he is under 51 years of age, what is his rate of expectation of being called into military service?

Colonel Glatty: The present age is 51. You are now getting into a question as to what is going to be our "take" from Priority III, what percentage will fail to meet physical standards, even though we have materially liberalized our giving of waivers, and so on. You ask how many will be declared essential and, therefore, unavailable for military service. Selective Service is presently declaring about 35% of all physicians in Priority III as essential.

Question: How many more young graduates will be needed for the military services to preserve the older men now on faculties?

Colonel Glatty: It will be fiscal year 1958 as things now stand, if our planning is fairly accurate, before the output of medical schools who are obligated under the regular draft act will numerically meet our requirements.

Question: When do you anticipate reaching the 45 to 50 age group?

Colonel Glatty: A good guess would be somewhere between eighteen and twenty-four months. Again, that is a questionable figure.

Question: I have two somewhat related questions. First, what are the possibilities of higher rank for the older men in Priority III? Second, what is the consideration or the impact of higher rank on the present reserve corps?

Colonel Glatty: At the present time, the Department of Defense commissions physicians and dentists under Public Law 779, based upon their years of professional experience: that is, the time they have spent in the practice of medicine or dentistry since their graduation from medical or dental school. It requires four years of practice, including the internship, for a physician to be eligible for initial appointment to the grade of captain. It requires eleven years for the grade of major, and eighteen years for the grade of lieutenant colonel.

Dr. Anderson: I know that Admiral Brown has some very definite thoughts about continuing to train an adequate number of specialists and I would like to call on him to speak.

Rear Admiral Brown: This has to do with Priority III people. We have had the understanding that the National Advisory Committee to Selective Service has recommended that until further notice medical graduates will be considered available for military service immediately upon completion of one year of internship, and will not be recommended for deferment for residency training.

While the Navy will not be adversely affected immediately, and perhaps not before the end of 1954, such a recommendation will eventually mean an acute shortage of trained medical officers to serve as replacements for members of our surgical teams now serving in Korea.

Our requirements, for example, for the First Marine Division plus the surgical teams we have there, is approximately 140 medical officers per year. Of this number, about 75 must be specially trained in surgery and anesthesiology.

If our only source of junior medical officers is from medical graduates who have just completed one year of

internship, we will be unable to fill the above mentioned billets with qualified doctors, especially considering the present attrition rate. The obvious remedy for this situation would seem to be (1) deferment of a certain percentage of Priority III doctors for residency training in civilian institutions or (2) instead of taking only the youngest of the Priority III physicians, allow us to take one-third or one-fourth of the required number from Priority III physicians in the 33 to 38 year age group.

Dr. Diehl: I do not wish to discuss this as a spokesman for the National Advisory Committee because we have not as yet considered this question.

As Admiral Brown said, our committee has recommended that young medical graduates who have obligations for military service under the general Selective Service law, as well as under P. L. 779—the “Doctor Draft Act”—should not be appointed to residencies but should be considered available for service upon completion of their internships. It is these young men who will serve not as specialists but as general physicians in the armed forces.

Up to the present time, the armed services have been calling to active duty Priority I and Priority II men who have had one, two or three years of residency training. This group has largely supplied their needs for specialists.

Our committee recognizes the value of these specially trained physicians to the military services but we cannot justify deferring these young graduates with double liability for service when we are calling into service members of medical faculties and physicians with established community practices.

The point Admiral Brown made, which Colonel Glattly has also made, is a very real one. On the other hand, since it is proposed to continue the age of liability under the special physicians’ draft act to the age of 51, it would seem that in calling older physicians the armed services will get an adequate number of men who are qualified, experienced and established physicians.

Lowell T. Coggeshall, M.D., Chicago: I would like to ask Dr. Diehl, or any member of the panel, whether in thinking about the new law, the military considers the ratio of the number of physicians to the number of troops.

Colonel Glattly: A ratio is not something that you start with and then determine the number of physicians you are going to need for the armed forces. It is an end result. We determine our requirements by examining every single medical activity we have to determine the number of physicians necessary to let it carry out its mission. The total number is the sum of all these separate activities, and you then come up with a ratio.

Dr. Coggeshall: What is the ratio you come up with?

Colonel Glattly: It varies, and of necessity it will vary. There are a great many medical activities that do not expand and contract with changes in troops, so you can have a ratio that looks quite favorable today, and for some reason or other the military force passes through a cycle of understrength which is something that characterizes all military forces supported by a draft act. Then our ratio goes up.

Dr. Diehl: Since Dr. Coggeshall mentioned my name in connection with his question, I would agree with Colo-

nel Glattly that the numbers of medical officers needed by the military services are determined by adding up the number of jobs for which medical officers are needed, the number in training, in transit, and so on. The ratios per 1,000 troop strength are then computed from the totals. On the other hand, the ratio does give an indication as to the number of physicians being utilized. The National Health Resources Committee feels a very deep responsibility to do everything within its power to see to it that when we are drafting these older men, their utilization by the military services is as economical as possible.

Rear Admiral Brown: I would like to comment concerning our service requirements. If we are to assume that the total strength of the Army, Navy and Air Force will remain at about three and one half million, and there appears to be no reason to suspect this will not continue, the personnel officers of the various medical departments estimate their requirements in total medical officer strength will be approximately 14,000.

The three medical departments are in fairly close agreement that two-thirds of these physicians should be regular physicians and one-third reserve, which is the proportion that exists at the present time.

The number of medical officers now serving the three military departments is 3,641, leaving a shortage of 5,691, based upon the over all strength. If we are to assume that the present methods of procurement are sufficient to provide for the normal attrition, which is estimated at 6%, a long range plan to procure 5,691 physicians is desirable in order to maintain a combined corps of 9,933.

In order to provide a hump in promotion as well as to admit readjustments to future possible changes in over all strength, it is desired that officers be brought in over a period of time, five years or perhaps ten years. If this shortage is to be made up during a period of five years, an enrolment of 1,138 medical officers per year is required. This represents an average of sixteen graduates from each medical school per year. If the shortage were to be made up during a ten year period, an enrolment of 569 officers per year would be required, representing an average of eight graduates per school per year.

I would like to emphasize that this number is required in order to bring the medical corps up to full strength. Subsequently, after this has been accomplished, the annual attrition, if it continues at approximately 6%, would make necessary an input annually from each school of eight physicians. This would be approximately 8% of the annual crop of graduates as a continuing requirement.

In order to bring the regular corps of the three services to full strength, we need the continued wholehearted cooperation of all of our medical schools. Some of our medical schools are motivated largely by the attitude of individual members of the faculties. These individual members of the faculties have done a great deal to further procurement, but this is by no means the case in all of the schools.

It is obvious, that the more officers we have in the regular medical departments, the less occasion there will be to call physicians from their communities in time of

emergency. It is said that in order to stimulate procurement for the regular service, we should make the service more attractive. Military service being what it is, there is little we can do in addition to what we are now doing to bring this about, although we may be able to ameliorate some of the presently considered disagreeable features.

I do want to make the point, however, that there are many satisfying professional lives being lived in the military service. There is a tremendous waste of military medical manpower incidental to a two year military service when a war is being waged thousands of miles from our shores, with the Air Force, Navy and Army scattered all over the earth, and with a rotation policy in effect.

This short period of service is also a great dislocation to physicians and inconvenience to communities, and a great disturbance to medical school teaching programs. Most of these disadvantages would be obviated if the regular corps were of its proper size. I feel, therefore, that it is in the interest of the medical profession, civilians and communities, to build the corps up to their desired effect in order to avoid the necessity of physicians being drafted. This is of paramount importance and we bespeak your support.

Dr. Anderson: This morning Dr. Ham said that one of the first things they found at Western Reserve University, in studying the curriculum, was that complete coverage was not possible. I think we are going to have to recognize that here on the panel. Complete coverage of all the things we would like to talk about, and all the things you would like to ask, is not possible, so we will relax.

NATIONAL FUND FOR MEDICAL EDUCATION: A PROGRESS REPORT

Chase Mellen, Jr., New York, N. Y.

I am happy to be here today to make my third annual appearance on behalf of the National Fund for Medical Education. In making my report to you, I shall make a strenuous effort to adhere to an old and sound New England rule which is to leave early before you wear out your welcome. Accordingly, I shall be brief and I hope you will find my few remarks to the point.

The year 1952 has been one of steady but limited progress for the Fund. This is attested to by the Annual Report to Contributors, copies of which you will find at the tables by the doors on your way out of this meeting. Please take one and slip it in your pocket so that you can read it at your convenience.

Because I made a rather detailed report of the Fund's 1953 plans at the Colorado Springs Meeting of the Association of American Medical Colleges, at which many of you were present, I shall not now repeat those details. Rather, I should like to sound a word of warning here today and to urge you please to continue to give us a helping hand.

Mr. Colby Chester, as you know, is heading up the Committee of American Industry. He will lead that Com-

Executive Vice President and Director, National Fund for Medical Education.

mittee on an air tour across the country, starting out from Denver the end of next week. They will visit Des Moines, Omaha, St. Louis, Detroit, Pittsburgh, and Cleveland. He will, undoubtedly, call on those of you located in his path to assist him and I know you will do so.

Now, for my word of warning: The year 1953 is the crucial year for the Fund. During the next eleven months, we shall learn the answer to this \$64 question:

Will our team of physicians and business corporations—that is, your Foundation and our Fund—be able to raise the large annual sums that are sorely needed by the medical schools?

The amounts raised in 1951 and 1952 represent a hopeful start. They substantiate, I think, the thesis that new sources of private support for the nation's medical schools can be mobilized from these two important segments. The task before us during 1953 is to exploit and develop these potentials or, to use a Churchillian term,—to exploit the break through and to fan out in an enveloping movement. This, because the annual amounts that we have raised to date fall far short of the \$10,000,000 of additional annual income which, in my humble opinion, is the minimum amount needed by the schools over the next few years if they are (1) to maintain high teaching standards, (2) to expand enrollment along sound lines and (3) to recruit the type of high grade faculties that will insure a continued advance in scientific medical knowledge and the best possible training for the oncoming generation of physicians and technicians.

Webster's Dictionary defines the word *crisis* as meaning—a turning point in a disease. In the case of the medical schools, the disease, according to my diagnosis, is financial malnutrition. That is why I have said that 1953 is the crucial or crisis year for the Foundation and the Fund.

Let me conclude this brief report by explaining in rather blunt terms just why I say this and why we at the Fund recently got out a short pamphlet telling of the financial needs of the schools, which we entitled "*Crisis in Medical Education.*"

Let us be realistic. We cannot count on lightning striking. The full \$10,000,000 of much needed additional annual income in all probability will not be forthcoming in 1953. Nevertheless, we must accelerate our uphill pace and do a whole lot better than we have done during 1951 and 1952 with a view to reaching the \$10,000,000 figure within the next few years. The \$1,600,000 of additional annual income is helpful. We must, however, greatly increase the number of units we are injecting into the patient if we are to arrest the debilitating effects of prolonged financial malnutrition.

Finally, lurking in the background and adding to the crisis is the question of federal aid. I do not need to go into that subject with you because I am well aware of your reactions to that thorny subject. To emphasize my point, I shall take just one minute more of your time to read the concluding paragraph of a recent article written by Dr. Howard A. Rusk, entitled "*U. S. AID MAY BE REQUIRED TO FILL DEMAND FOR DOCTORS.*"

In this article, he tells what Mr. Bernard M. Baruch said to a medical meeting in 1947: This is what he said—quote—

“There is no question — the need for more medical care exists. . . . All over the world, the masses are stirring for higher living standards. Improved medical care is a foundation of that better standard. Without good health, of what advantage are higher wages or shorter work hours, better education or greater leisure?” It all boils down to this: do the people of the United States feel that improved medical care and resulting higher living standards require more physicians? If they do, the old law of supply and demand takes over and if private and state financing fails to produce the number of physicians necessary to meet the demand, then public opinion will speak and federal aid will be forthcoming. The question the Congress must face is, “Has this point been reached?”

If an elder statesman of Mr. Baruch's standing could so warn us in 1947, I think we here today are correct in calling 1953 a year of crisis in medical education. Clearly, it is up to us to redouble our efforts so that we can say, “No, Mr. Baruch, that point has not yet been reached.”

THE AMERICAN MEDICAL EDUCATION FOUNDATION: A PROGRESS REPORT

Donald G. Anderson, M.D., Chicago, Ill.

My purpose is to review with you the accomplishments of the American Medical Education Foundation during 1952, to tell you of our plans for 1953 and to present a summary of the information we have collected through your cooperation with respect to alumni giving during 1952.

The results of our 1952 campaign, although short of our goal were definitely encouraging in the extent to which they represented improvement over our first year, 1951. The total sum raised by the American Medical Education Foundation in 1952 was \$906,553, an increase of better than 20 per cent over 1951. More significant, the total number of contributors increased from just over 1,800 to over 7,000, an increase of 288 per cent.

We are starting 1953 with a third gift of \$500,000 from the American Medical Association. These gifts have been made for the specific purpose of priming the pump to make certain that the Foundation got off to a good start. They have been most encouraging and helpful. It is appropriate, however, to point out that while no decision of any kind has been made on this point, it should be appreciated that the Trustees of the American Medical Association are looking to the day when contributions to the Foundation from other sources primarily individual physicians, will make up the bulk of the funds raised. This is as it should be. I mention it now so that whenever the time arrives that the Trustees feel they can and should reduce their contributions, their

Secretary-Treasurer, American Medical Education Foundation.

action will be properly understood and will not be construed as a diminution in their interest in or support of the Foundation. On the other hand, the American Medical Association expects to continue to underwrite the full cost of operating the Foundation which amounts to a not inconsiderable sum so that every dollar which is contributed can go as full to the medical schools.

The 1953 campaign got off to a good start two weeks ago with a meeting of the state chairmen for the Foundation. At this meeting we were greatly encouraged by the very evident increase in the understanding of what must be done at the state and local levels to make the Foundation a success and by the clear determination of the representatives of the states to do a more effective job in 1953.

Thanks to the very fine cooperation that the medical schools have given Mr. Hiram Jones, the Executive Secretary of the Foundation, he has been able to compile some very significant statistics concerning the support the medical profession is giving in the form of direct contributions to the medical schools.

To date he has received reports from all but one of the 79 schools as to the number of physicians who have made direct contributions and figures for the total amount of these contributions from 76 schools.

These reports when totalled reveal that over 29,000 physicians contributed \$2,258,534 directly to the medical schools in 1952. In requesting these reports we asked only for gifts that were to be used by the school for its current general operating expenses. We asked that gifts for buildings, endowment, scholarships, research and other special purposes not be included since we were anxious to determine the amount of direct support that was being given comparable to that provided by the American Medical Education Foundation and the National Fund for Medical Education.

Adding the direct contributions to the medical schools to those received through the Foundation, it is found that in 1952 nearly 37,000 physicians contributed over \$3,100,000 in direct support of medical education. If contributions to building funds and for other special purposes were included, these figures would undoubtedly be much larger. Perhaps in the future it will be possible with your cooperation to secure this information if it seems worthwhile.

The results reported here should be considered evidence that the medical profession has made a real start toward helping relieve some of the financial pressures of the medical schools. More important, these figures should help to convince industry and business when we ask them for more support that we are making a real effort at self-help.

A preliminary analysis of the reports from the individual schools has brought out some interesting data. Of the 78 schools reporting, ten received no contributions, eight are state schools and two are private institutions. While this would appear to support the belief that state schools may have difficulty in securing contributions, it should be pointed out that the school that received the largest sum in the form of direct contributions, namely, \$218,851 is a state school.

As might be expected the sums received by the individual schools varied widely. In many instances they represented only token gifts indicating that still unexplored and untapped possibilities for additional support exists.

Leading the list are eleven schools each of which received over \$50,000 in direct contributions. Seven of these received sums of over \$75,000 indicating what can be accomplished.

Another ten schools received between \$25,000 and \$50,000 in total gifts, while still another fourteen schools received between \$10,000 and \$25,000 each. To re-

capitulate 35 schools including 8 state and municipal schools raised more than \$10,000 each during 1952.

It is hoped that this information and the further analyses that Mr. Jones is preparing for the Annual Report which will be published in March will be helpful to all schools in appraising their fund raising efforts.

We hope that each school will continue to send us reports as you did last year. For our part we shall continue vigorously our efforts to enlist the support of the medical profession for medical education whether this support be given through the Foundation or directly to the medical schools.

II. THE FEDERATION OF STATE MEDICAL BOARDS OF THE UNITED STATES

SUNDAY AFTERNOON SESSION, FEBRUARY 8, 1953

Walter E. Vest, M.D., Presiding

PANEL DISCUSSION: MEDICAL PRACTICE VIOLATIONS

George E. Hall, Staff Associate, Bureau of Legal Medicine, American Medical Association.

James D. Parriott, Assistant Attorney General of Colorado.

Martin R. Glenn, Legal Counsel, Kentucky State Board of Health.

Grounds for Revocation

George E. Hall, Chicago

I have been asked to substitute for Mr. John H. Anderson, Jr., Legal Counsel, North Carolina Board of Medical Examiners. The topic assigned to him was "Grounds for Revocation and Enforcement Procedures." I would like to discuss one phase of his assignment and that is the question of grounds for revocation of a license to practice medicine. In preparing for this talk, I hastily reviewed the state medical practice acts and listed the various grounds for revocation that are stated in them.

There are some 46 specific grounds stated for revocation of a license to practice medicine in the various acts. They range all the way from the power to revoke a license because a physician is habitually intoxicated or a drug addict, down to a few grounds that are listed in just one of the states. I will present the ten most common grounds for revocation.

The one which is found in most of the medical practice acts—in 41 of them—is the use of alcohol or drugs to such an extent that it renders the physician unable to carry on his practice adequately. It includes drug addiction and habitual intemperance, and anything along that general line.

The second most common, which is found in 35 of the medical practice acts, is aiding, inducing, procuring or attempting to aid, induce or procure a miscarriage or an abortion.

The third most common—found in 33 acts—is immoral, dishonorable, unprofessional conduct, or gross immorality in practice. This is a very general term, and it might even be construed to include many of the others that are listed but in 33 states it is mentioned specifically.

The fourth most common is fraud in obtaining the license, or in passing the examination. You are perhaps familiar with the applicant who furnishes data on his application blank that is untrue, or who attempts to apply for an examination or license in the name of some other practitioner.

The fifth most common, found in 30 of the medical practice acts, is conviction of an offense involving moral turpitude.

The sixth most common ground for revocation of a license is a specific listing of conviction of a felony. Twenty-three medical practice acts mentioned this ground.

The seventh most common, included in 21 medical practice acts, is advertising the ability to cure an incurable disease.

The eighth most common, found in 20 acts, is the use of misleading, deceiving or fraudulent advertising.

Ninth, found in 19 of the state acts, covers advertising in relation to the ability to suspend or reestablish a woman's menses.

The tenth most common, found in 15 medical practice acts, is aiding an unlicensed person in the practice of medicine. This would include instances in which a physician would have associated with him in his office an unlicensed person to whom he would turn over a certain amount of his professional practice, and the unlicensed person would therefore be practicing medicine without a license, solely through the assistance and connivance and encouragement of the licensed physician.

A few of the grounds for revocation which are included in one or two of the medical practice acts might be of interest.

Advertising without the use of any name at all is listed as a ground for revocation by one state. There is also the purchase or sale of a medical degree. Advertising to treat diseases by secret methods is listed in four acts as ground for revocation. Accepting a witness fee in addition to that allowed by a court, without the court's knowledge, is listed in one act. In two acts there are a number of grounds involving advertising, namely, advertising prices

for professional services, advertising free services, advertising to guarantee a cure, advertising discounts or special inducements to patients.

Another act is concerned with wrongfully encouraging the filing of malpractice actions, or sharing in money recovered when some citizen is induced to sue a physician for malpractice and the physician who induces him appears as a witness and then subsequently shares in whatever judgment might be recovered.

Preparation and Presentation of License Hearings Before a State Board of Medical Examiners

James D. Parriott, Jr., Denver, Colo.

The preparation of an action for license revocation before a board of medical examiners must be meticulous and thorough. The professional livelihood of a person who has spent long years in school, and frequently in honorable practice, is at stake. Courts are composed of professional men who are acquainted with the propensity of patients and clients to damn the doer of unsatisfactory professional acts, and they will be inclined to look with a sympathetic eye upon a fellow professional man who has fallen into the toils of a license revocation hearing. Therefore, a record made before a board of medical examiners must be exact and it must at once show by a clear preponderance of the evidence that the board did not abuse its discretion in taking adverse action against the professional license in question. When no adverse action is taken, the record is unimportant from a legal point of view.

With this in mind, the following key phases of board hearings will be considered:

1. Gathering evidence,
2. Organizing facts,
3. Procedure at board hearings.

GATHERING THE EVIDENCE

Federal Agencies

Generally, license revocations arise by complaint of a government agency such as the Bureau of Narcotics, the State Department of Public Health, and the like, or by the complaint of a person who has been treated by the doctor in question. Governmental agencies will be first considered.

The Federal Bureau of Narcotics originates most of the complaints before state boards of medical examiners. This Bureau usually uncovers the narcotics violations of the members of the medical profession. When such violations are discovered, the Bureau takes the following steps: It requests and usually receives a voluntary surrender of the physician's Harrison Narcotics Stamp. It then prepares a detailed narrative statement of the facts discovered in its investigation. At the end of this statement, the local agency gives a concise report of the evidence which would be adduced at a federal trial of the physician, listing the witnesses, what they will testify to, and a brief appraisal of the witness. The report also includes a list of the exhibits which will be available at the time of the trial. This report and statement go to

Washington, where they are digested and a course of action is determined. The commissioner of narcotics then sends a letter reporting the violation to the state board of medical examiners.¹ That report constitutes the authority for the Federal Narcotics Agents involved to appear before the board of medical examiners in any license hearing which might develop from their investigation. No subpoena is needed for narcotics agents to testify. These men are accustomed to frequent appearances in court, and they are excellent witnesses, as experienced board members know. As a rule, federal narcotic convictions of physicians are not appealed, and the exhibits prepared for the federal court trial are readily available for use in hearings before boards of medical examiners.

As a general statement, when the Federal Bureau of Narcotics is involved, the investigation and preparation of the case is tailor-made, and only the presentation remains to be done.

In the usual narcotics case it is wise to bring in the pharmacist who filled the prescription, and, in the case of a fraudulent prescription, the person named in it as the recipient of the narcotics in order to show that he did not receive the narcotics in the prescription. Frequently the respondent admits all allegations, or claims no knowledge of them because he was in a narcotic or alcoholic fog at the time they were uttered. Complete the record for the record's sake in these instances, because it might be useful on a change of tactics in the future.

The Federal Pure Food and Drug Agency has jurisdiction over the use of misbranded diagnostic and therapeutic devices, and misbranded drugs which have been transported in interstate commerce and the abuse of the dispensing of hypnotic drugs.² Those practitioners who use the micro-dynameter, the cosmic ray generator, the bogus diagnostic machine, and other such devices have had unhappy relations with this Agency.³ Pure Food and Drug has extensive laboratories for the analysis of foods, drugs, and devices. On its staff are several medical officers, chemists, and physicists who are qualified to recommend the correct expert witnesses in the prosecution of quack device cases.

Obtaining agents as witnesses from the Federal Pure Food and Drug Commission is somewhat more difficult than obtaining such witnesses from the Federal Narcotics Bureau.⁴ It is necessary to write a specific request to the Commissioner of Pure Food and Drugs, Federal Security Agency, Washington 25, D. C., stating the particular case involved and requesting by name the agents who will be required to testify. After receipt of his permission, the agents must be served with subpoenas before they will be allowed to testify.

1. The Bureau Publication for 1952 reported that in 1951, 185 cases were reported to professional boards for physicians, dentists, veterinarians, pharmacists, and nurses.

2. 21 U.S.C.A. Ch. 9.

3. Some recent cases are: *United States of America (Libelant) vs. Twenty-two Devices More or Less, Labeled in Part "Halox Therapeutic Generator (Respondent)"*, U. S. District Court for Southern California, Case No. 8239-WB-Civil. *Ruth B. Drown et al, Appellant vs. United States of America, Appellee*, U. S. C. C. A., 9th Circ., No. 13241. *United States of America (Libelant) vs. Articles of Drugs, Respondent vs. Basic Endocrines Sales Company, Incorporated, (Claimant)*, U. S. District Court for Southern California, No. 12820-C.

4. Title 21, U. S. A. (Sec. 301 J of the Pure Food and Drug Act) prohibits divulging information which has been acquired under authority of the Act, without the express permission of the commissioner.

This agency is little known for its usefulness in combatting quackery of all types, and the establishment of liaison between it and the board of medical examiners will be beneficial to both units.

Lay Witnesses

In cases not arising out of the investigation of a federal agency, lay witnesses bear a greater load of proof than they do in cases involving such agencies; they relate the basic facts upon which the complaint is based. These facts must be firm or the case should not be undertaken.

The lay witness has usually been a patient of the respondent, and his complaint arises out of what is to him an unsatisfactory professional relationship. Due to the highly personal nature of the professional contact, it is well to beware of personal prejudices and motives. The attorney for the board should tactfully interrogate the witness as a cross-examiner and try to expose defects and inconsistencies in his complaint.⁵ At some point in the questioning, the examiner will satisfy himself as to the veracity of the witness, or he will acknowledge to himself certain doubt as to the value or veracity of the witness.

If the circumstances warrant it, the board should hire a professional investigator to clarify apparent inconsistencies in testimony of the complaining witness or any of his supporting witnesses. Material omissions in testimony, such as similar dealings with doctors or personal motives and malice bear heavily on the credibility of the witness. Once in a while an investigator learns that a complaining witness is a frequent complainer in police court or that he is a familiar face around the office of the District Attorney or in the civil courts; a professional complainant who manages to turn innocent actions into fraud or personal affront. Learning these facts at an early stage of the investigation prevents embarrassment to the board and bad publicity for an innocent practitioner.

It is more economically feasible for a board to hire an investigator to conduct spot investigations than it is for the board to use its attorney for such investigations. The attorney for the board is usually not trained in investigative technique. A competent investigator can get more information faster than an equally competent attorney. The investigator uncovers the surface fact and presents it to the attorney, who weighs its value to the record, and compares it with other facts which are then known to him. He then disregards it, or pursues it in detail.⁶

In many cases, facts follow each other so clearly that an investigator is not needed. However, in the unusual or hotly contested case, an investigator is highly useful.

Expert Witnesses

Expert witnesses are frequently needed to complete a record for perusal by lay courts. As an example: The board has before it a case wherein a physician is charged with catering to the cravings of an addict to a particular barbiturate. The lay witness, the addict, testifies that he has purchased from the physician as much as 40 grains of the drug per day over a course of three or four months, and that the physician knew that he was consuming these capsules. It becomes necessary, as a technical matter, to

prove that the witness was addicted by showing, (a) that the drug is capable of producing addiction, if it is not statutorily so, (b) that there are certain elements of addiction, (c) that the witness possessed the elements of addiction, and (d) by way of tying it in, the elements are known to competent doctors (which the respondent claims to be). This calls for two expert witnesses who must explain medical technicalities to a judge before whom they are not, to the boredom of a medical board composed of men who know all of the things of which they speak.⁷ First, the pharmacologist, who outlines the properties of the drug and the physiological effect for which the drug is designed, and those which it performs; the normal dosage of the drug; the possibility for build-up of the drug through constant use and the possibility of developing a physiological tolerance thereto and the effect if the drug is withdrawn. Second, the psychiatrist, who describes the elements of addiction and the recognition thereof, particularly by one who knows of the physical tolerance and the symptoms of withdrawal from an addiction.

Then the physician who conducted the withdrawal of the drug describes the actions of the particular patient, the withdrawal and the treatment in general—thus showing that the patient was, in fact, addicted to the drug based on the addiction previously described by the expert. (This is available testimony if you have the former addict as a voluntary witness.)

The need for experts varies with the case. The department heads of the state university medical school are the most inexpensive, and frequently the best and most cooperative expert witnesses available. Careful preliminary examination and cross-examination of the expert is necessary, and the possibility of honest mistakes by the respondent should be dealt with meticulously before proceeding with the case.

The most effective and lasting type of evidence is real or tangible evidence—a receipt, a blood analysis signed by the respondent, a letter, a silver disc that “generates cosmic rays”—all are important in the record review by the court. The effective use of such evidence is important, and special care should be taken to procure it for the record.⁸

ORGANIZATION OF THE FACTS

In any trial, it is necessary to organize the facts to produce the utmost understanding of them by those who must sit in judgment on them. The order of presentation varies with the case, but a safe rule to follow is this: Go from the broad picture to specific points, trying to anticipate questions in the order of their importance. A fairly standard order of organization and presentation is this:

7. The Model Administrative Procedure Act, adopted by the National Conference of Commissioners on Uniform State Laws in 1946 (see page 10, *supra*) allows for judicial notice to be taken by boards and commissions composed of persons of special knowledge. This is sound; however, if such authority is not included in the state law in question, it is better to create a record for laymen.

8. In *Miller vs. Cotten*, 5 Ga. 341, at Page 349, a Justice of the Supreme Court of Georgia said, “I would sooner trust the smallest slip of paper for truth than the strongest and most retentive memory ever bestowed on mortal man.” And Osborn, in *The Problem of Proof* says, “Every lawyer sooner or later learns that the most formidable evidence that appears in the court is the silent evidence of things. A letter, a telegram, a postal card, a signature is that which turns the scale of justice.”

5. See Goldstein: *Trial Technique*, 10th printing, Page 38, Sec. 67.

6. *Ibid.* P. 33, Sec. 55.

The complaining witness gives a narrative of the facts as they occurred. For instance, in the barbiturate addiction case previously mentioned, the complaining witness tells of his first contact with the physician, how that contact came about, and what occurred. He describes his dosage at that time, and continues to tell of the increased dosage and the facts which lead to the conclusion by the board that the doctor knew that he was consuming all that he purchased. He tells of his ultimate hospitalization and withdrawal from the drug and the sensations of withdrawal.

Questions as to the implications of the stated facts then arise. In the example case, they might go something like this: Are barbiturates capable of producing addiction? Do the symptoms that this man describes mean addiction? Was he, in fact, addicted and would this be noticeable to a doctor?

Witnesses who answer these natural questions should be next: The pharmacologist, the psychiatrist, and the physician who aided the witness in his withdrawal program. Throughout the presentation of the witnesses' testimony, introduce documentary or real evidence as it arises in the course of the testimony. This will help punctuate important points as they are presented.

PROCEDURE AT BOARD HEARINGS

Procedure varies according to the particular medical practice act, and this discussion cannot possibly relate the method which is proper for any one state. It will, therefore, be necessary to deal with this subject generally.

Hearing procedure is based upon powers expressed in the medical practices act. Most acts contain the following powers:

1. To hold hearings and take evidence,
2. To administer oaths,
3. To subpoena witnesses, books, papers and records relevant to the controversy and to compile testimony.

These powers for administrative tribunals have been upheld as to constitutionality by the courts.⁹

The board is usually required by the statute to give the respondent adequate notice of the specific charges against him and the time, date, and place of hearing those charges.

Most acts do not require written pleadings to be filed by the respondent, and his reply to the charges is made at the time of the hearing.

A good general statement of the rules of evidence which apply in administrative hearings, is contained in the Model State Administrative Procedure Act adopted by the National Conference of Commissioners on Uniform State Laws in their 1946 session. This provides:

"(1) Agencies may admit and give probative effect to evidence which possesses probative value commonly accepted by reasonably prudent men in the conduct of their affairs. They shall give effect to the rules of privilege recognized by law. They may exclude incompetent, irrelevant, immaterial, and unduly repetitious evidence.

The following are the corresponding provisions of the Federal Administrative Procedure Act:

Sec. 7 (c). Evidence.—Except as statutes otherwise provide, the proponent of a rule or order shall have the burden of proof. Any oral or documentary evidence may be received, but

9. 42 Am. Jur., Page 325. Citing cases.

every agency shall as a matter of policy provide for the exclusion of irrelevant, immaterial, or unduly repetitious evidence and no sanction shall be imposed or rule or order be issued except upon consideration of the whole record or such portions thereof as may be cited by any party and as supported by and in accordance with the reliable, probative, and substantial evidence. Every party shall have the right to present his case or defense by oral or documentary evidence, to submit rebuttal evidence, and to conduct such cross-examination as may be required for a full and true disclosure of the facts. In rule making or determining claims for money or benefits or applications for initial licenses any agency may, where the interest of any party will not be prejudiced thereby, adopt procedures for the submission of all or part of the evidence in written form.

"(2) All evidence, including records and documents in the possession of the agency of which it desires to avail itself, shall be offered and made a part of the record in the case, and no other factual information or evidence shall be considered in the determination of the case. Documentary evidence may be received in the form of copies or excerpts, or by incorporation by reference.

In the generally stated powers, duties, and rules of evidence, a broad latitude for specific procedure is present. Discussion of a general procedure would best serve our purposes at this meeting. With the constant reminder that records before medical boards are reviewed by lawyers, it is advisable to make a record along the general pattern of proceedings in courts throughout the land. This insures an order or procedure to which a reviewing court is accustomed. The procedure most satisfactory to the Colorado Board has been as follows:

1. The president calls the meeting to order and calls the roll, naming the members present for the consideration of the matter. These should be the only voting members at the end of the hearing.

2. The matter is called before the board and the president states that a copy of the notice and statement of charges has been served upon the respondent, stating the date, time, and method of service. The receipt of service of the statement or complaint is made part of the record.

3. The president calls for any motions to be offered before the taking of testimony, and the board hears and rules on the motions.

4. The president calls upon counsel for the board to state what facts will be presented to substantiate the statement of charges, and the attorney makes that statement.

5. The president then asks counsel for the respondent to make an opening statement of the evidence contrary to the statement of charges, advising counsel that he may waive or postpone this statement if he so chooses.

6. The attorney for the board proceeds with the evidence pertaining to the statement of charges. When he completes direct examination, cross-examination is allowed. After cross-examination the board may examine the witness.

7. After the attorney for the board has completed the evidence, he shall state the Fact of Completion and rest the case in support of the complaint or statement of charges.

8. The president should then ask the attorney for the respondent to proceed with his evidence and to show cause why action on the license should not be taken.

9. The respondent's case shall then proceed as did the case supporting the statement of charges.

10. When the cases are completed by both sides, the president will ask for closing statements by both attorneys.

11. The board retires into executive session to decide the matter before it.

12. The board delivers its Findings and Order in the presence of the respondent, and hands him a copy thereof.

13. If the Findings and Order are adverse to the respondent, the board will hear and decide motions for re-hearing, stays of execution, and so forth. The allowance of these motions is within the discretion of the board, and it is wise to allow stays of execution for the certification of the record to the court even if not directed to do so by the statute.

The usual method of appeal from an adverse ruling of the board is an action before a court of general jurisdiction in which the respondent is plaintiff and the board is defendant. Summarily, the court orders the board to show cause why its ruling should not be set aside. The board replies that it stands on the record of the proceedings before it and the issue is then joined. The plaintiff attempts to show that the board abused its discretion in making an adverse ruling on the record before the court, or that the proceedings before the board were illegal and void. The defendant board will argue that the evidence supported the findings and that the hearing was properly held.

The court must now decide the issues. The evidence before him is a printed record on which there appears no voice inflection or innuendo, no demeanor of witnesses, no professional admiration for experts and no technical knowledge other than that of the witnesses. On this record, he must determine whether or not the continued practice of the respondent will endanger public health, safety and welfare. Good evidence, well organized and presented in a form easily understandable to the court, will overcome the deficiencies of cold printed record.

BASIC ELEMENTS IN REVOCATION PROCEEDINGS

Martin R. Glenn, Louisville, Ky.

Administrative agencies, such as licensing boards, generally do not possess any inherent powers, although they have implied powers to carry into effect the rights and authority that have been delegated to them by the legislature of their state.

The right to practice medicine, once a license has been issued, is a property right which the courts will not permit to be taken away without just cause. However, it is not such a property right that is inherent, nor is it such a property right that one can hold regardless of the nature of his conduct. Briefly, it is a privilege that has been granted by the state, and a privilege that may be taken away by the state upon a showing of sufficient cause.

There are various grounds for revocation in the various states. The right of revocation of a license to practice medicine, or any profession is an important and a necessary concomitant of licensure. If it were not, there would be no control over the profession. However, a board should bear in mind that its power to revoke a license depends upon the statutes and upon reasonable interpretation of the statutes.

The procedures for revocation vary as much between the various states as the grounds for revocation vary. It is well to bear in mind one fundamental point, regardless of the particular provisions of the statutes of a respective state. That is, that there are certain constitutional safeguards that every citizen has guaranteed to him by the

federal and state constitutions; one being that no person shall be deprived of his life, liberty or property without due process of law.

Due process of law requires notice of the hearing. If the statute requires written notice of the hearing, and it usually does, there must be a compliance with the statute. In any event, it must be due notice, and not just notice today that the license will be revoked tomorrow. It contemplates reasonable notice.

The function of the notice is to give the respondent the opportunity to prepare his side of the case, to give him the opportunity to be present in person or by counsel, or both; to give to him the opportunity to confront the witnesses; to examine the witnesses, and to procure his own witnesses, or documentary evidence. In other words, to give him a fair opportunity to be ready at the time of the hearing.

Furthermore, due process of law contemplates and requires that there be a fair and impartial hearing, and that the findings of the board be based upon the evidence presented at the hearing, and not upon what some member knows or thinks about the individual or the subject matter.

Some states require the full board to hear the evidence. In view of a medical license law which was enacted in Kentucky in 1952, there is a method which could expedite proceedings. Under the Kentucky law it is provided that hearing officers may be appointed by the State Board of Health, which is the licensing and revoking agency. A hearing officer need not necessarily be a member of the board; he will act, shall we say, as a trial examiner. It is not a new idea. The Inter-State Commerce Commission has used it for years. The National Labor Relations Board uses it. Nearly all of the federal agencies and a good many of the states use this method.

The hearing officer, without taking up the time of the entire board, proceeds to schedule the case for a hearing after it is referred to him by the board. He hears the evidence and has a transcript made of the evidence. At the conclusion of the hearing he turns the manuscript over to the board for consideration and decision.

The hearing officer does not have the authority to revoke a license, to suspend a license, or to take any other disciplinary action. He merely sees that the evidence has been compiled and the exhibits collected. He then turns the data over to the board which reviews the evidence pretty much as courts do on matters that have been heard by special commissioners. Then the respondent in the case, the person who is being proceeded against, can if he requests it come before the board and make an oral argument. Furthermore, he can make an oral argument before the hearing officer, and the entire context of his oral argument is included in the transcript of the record. That is a means of expediting some of the hearings so that they will not be particularly long and will not require the full time and attendance of all the board members. Bear in mind, that only the board can revoke a license, and if the board is not satisfied with the record it can reopen the case because the hearing officer is simply acting as its agent in conducting the hearing.

Then there is the matter of appeals. There is a great variation among the state statutes as to review of the decisions of boards revoking licenses. Some statutes ex-

pressly provide that an appeal shall go to a particular court. A few statutes prescribe that appeals go to the Governor. This was true in Kentucky under the previous law. One might question what particular qualifications the average Governor of a state has for reviewing the decisions of medical examining boards. In Kentucky, appeals now go directly to the courts.

Again, under the due process of law provision, regardless of whether a statute expressly provides for an appeal, the courts generally hold that there is always a way to get judicial review; by an injunction suit, if by no other means, to enjoin and restrain the board from putting into effect an invalid order of revocation.

The rules of evidence in proceedings of this type are not as strict as they are in courts but due process must still be observed. A license cannot be legally revoked solely on the basis of hearsay evidence. There must be substantial evidence in support of the action. Nor can a license be revoked on the basis of opinion unless there is substantial and admissible evidence to support it. While the rules of evidence are not as strict as they are in court, nevertheless, the action of the board must be supported by the record, and it requires a somewhat judicious approach to the entire subject, bearing in mind that it is a quasi-legal proceeding.

In conclusion, let me say that I am not attempting to convert you to a lawyer's way of thinking. I am not attempting to say that this is the only approach but I do say that it is advisable to comply with the law as written. These proceedings must be in accordance with the legal concepts that exist if they are to be sustained by the courts. Of course, every board is anxious and desirous of having its actions sustained by the courts. It is essential to become legalistic, at least to the extent of seeing that the record is in compliance with the concepts of due process of law and the modern concepts of administrative law and procedure, so that whenever a license is revoked by a board it will stay revoked by the courts.

General Summary: Review of Procedures in Different States

George E. Hall, Chicago

Revocation proceedings, by and large, are fairly well outlined in the statutes although some of the state statutes do reserve a great deal of discretionary and regulatory powers so far as making rules in the board itself. In a few states, the procedure is governed by a general administrative procedure act. These procedures usually require a written charge to be filed outlining the ground on which a revocation is sought, giving an opportunity to the accused, with his attorney, to examine his accusers and to present his own witnesses, and giving the board an opportunity to present its witnesses and to examine the witnesses the accused has offered, with provisions for subpoenaing witnesses and punishing for contempt those witnesses who refuse to obey the subpoena.

There are provisions for adequate but definite time intervals between the notice of hearing and the hearing, and the decision of the board. There are provisions for taking an appeal to the courts following an adverse rul-

ing. In short, every effort is made to assure a fair hearing because the courts have held that an occupational license or professional license is akin to a property right, and it cannot be taken away without what we refer to as due process of law. It is these various procedural steps that make up the concept of due process of law.

Since it would be a time consuming task to compare the procedure in each state, I have selected three states which I want to discuss very briefly, namely, Connecticut, Tennessee and Illinois. They were not selected completely at random. I will explain the reason why I selected them in my remarks.

In applying these general principles to Connecticut, it may be noted that the State Department of Health may file a written charge with the medical examining board, which shall send a copy thereof to the accused practitioners, together with the notice of time and place of hearing thereof. This hearing must be not less than ten days after the notice. At the time appointed, the accused may be present with his attorney, may present witnesses in his own behalf and may question witnesses offered by the board. The board may also present witnesses and question those presented by the accused. If the accused is found not guilty, the board shall dismiss the charge. If the accused is found guilty, the board may either reprimand or recommend to the State Board of Health that the license of the accused be either suspended or revoked. The State Board of Health shall comply with such recommendation and mail a notice thereof to the accused and to the town clerk wherein the accused resides. The town clerk shall make a recommendation in his book, noting the order of suspension or revocation. If the accused desires, he may appeal to the superior court of his own county within 30 days.

Thus far, the procedure is pretty much as outlined in the general requirements of due process. The reason I picked Connecticut for this discussion is because there seems to be an alternative procedure in their law. The State Board of Healing Arts is authorized to act as a grievance committee to hear complaints which may be brought before it by members of the public, apparently by anyone who has a complaint against any practitioner of the healing arts. This board, after a reasonable notice to the accused, shall hold a hearing, not to determine whether or not his license should be revoked but whether or not there is a probable cause for the complaint that has been made against him.

If this board, acting as a grievance committee, finds that there is probable cause, it shall give a record of its hearing to the Attorney General, who shall commence an action against the accused in the Superior Court in the county in which the accused lives. The Superior Court then will hold its own hearing, and it may revoke the license or take such other action as it might deem equitable.

It would appear, therefore, that in Connecticut there are two proposals. Under this alternate proposal the board does not hear or determine the revocation phase completely. It merely acts more as a grand jury does in finding whether or not there is probable cause. Then it turns the matter over to the Superior Court which makes the finding.

On the other hand, it also has the provision whereby the board, through the revocation procedure with which you are all familiar, may hold its own hearing and may actually revoke the license if it finds the evidence sufficient to justify revocation.

In Tennessee, the medical examining board must give an accused 15 days' notice of a revocation hearing, and the accused may be heard in person or by his attorney or both. Both the accused and the board may present and examine their witnesses. The board is granted authority to make all needed rules of procedure for these hearings and any action of the board is subject to review by the courts.

This procedure, likewise, is very much in accord with the general due process procedure. The reason I mention Tennessee is, because over and above the medical examining board and the basic science examining board, they have what is called a state licensing board for the healing arts. This board, for practically the identical grounds stated in the act, and with practically identical steps of procedure, may also hold hearings to revoke a physician's license.

The personnel of the two boards are very different, and that is where this is of interest, especially to lay complainants. The medical examining board is made up of five physicians. The state licensing board for the healing arts is composed of three members, one of whom is the commissioner of the State Department of Health, one of whom is the Secretary of State, and the third is the State Treasurer. Here is a board which conceivably could be composed of three laymen. Possibly the commissioner of the State Department of Health would be a physician, but it is rather doubtful that the Secretary of State or the State Treasurer would be, so I suppose a complainant who feels he has a better chance of having his complaint dealt with in his favor by a group of lay people would file his complaint for revocation before the state licensing board for the healing arts rather than before a board composed of physicians who are in the same professional category as the one against whom they are complaining.

In recent years, there has been a movement toward the creation of central licensing agencies in a number of states to take over the administrative details and the clerical details of the growing number of separate professional and occupational licensing boards that have grown up. A survey made a year or so ago by the Council of State Governments found that there are at least 75 separate occupations which are licensed in one or more of the states. These occupations run the gamut from the profession of medicine and law all the way down to guide dog trainers, egg craters, well drillers and horseshoers.

These independent boards, with their examining, licensing and revocation powers, and with the right to collect money and disburse their own funds, have brought a number of criticisms down upon themselves. For example, in the first place, differing administrative procedures often result in a number of inequities amongst the various applicants. Too, inspectional services are usually inadequate. Many of these boards examine three or four applicants a year, and the funds which they would receive would not be adequate to afford proper inspectional service.

A duplication of services generally results in higher costs for personnel and for equipment.

Due to inadequate staff, records preserved by some board secretaries have been inadequate, particularly those records of secretaries who use their personal offices for their board business. Some boards are accused of artificially maintaining high entrance requirements in order to further the economic interests of the existing members of the profession, or existing licentiates under the boards.

As a result of these criticisms and others, at least 18 states have taken steps to centralize their licensing function, and so far this year, the states of Connecticut and Wisconsin have had proposals introduced into their legislatures which would set up a central licensing agency, and I understand that other states are considering the introduction of such proposals.

Whether the medical boards are subject to the criticisms which I have outlined or not, they are usually involved in a centralizing procedure, and so they are naturally interested in how the revocation problems would be affected by such a change. I have selected Illinois as an example of this group, having a central licensing agency, because Illinois was one of the pioneers in this movement.

The newest medical practice act in a state having a central licensing agency is the State of Kentucky.

In Illinois, all of the licensing functions are handled by the Department of Registration and Education, except for the Medical Examining Committee, which is composed of five physicians appointed by the Director.

Revocation actions are commenced by the filing of written charges. The department then handles the details of arranging for the hearing and notifying the accused of the time and place, and so forth, but the examining committee holds the actual hearing, and presents a written report of its findings and recommendations to the director following the hearing. This report constitutes sufficient authority for the Department of Registration and Education to act. Of course, provision is also made for calling witnesses and compelling their attendance, and ordering rehearings by the department, and also for appeal to the Circuit or Superior Court.

Thus, in Illinois, the examining committee, which is composed of physicians, controls the professional phases of licensure but it has none of the administrative and clerical responsibilities and worries.

You may be interested in knowing that the Drafting Committee of the Council of State Governments has developed a suggested form of act to create a department or division of occupational licensing. In the foreword of this act, it is stated that this act, or suggested act, is patterned after the Illinois law of some 30 years ago, so you can see that the Illinois law is rather old, and is quite respected in this regard.

Section 5 of the proposed model act, which relates specifically to the problem of revocation, and sets forth the powers and duties of the department, provides that the department has the power to issue, review, suspend or revoke licenses only upon the recommendation of the appropriate examining board. Thus, I feel that there need be no fear on the part of a medical professional board that the professional duties of medical examination

would be taken away. The only thing the central licensing board would take over would be the administrative and the clerical details, and the obligation and duty to examine the applicants as to their professional fitness, and to revoke licenses for professional causes is not one of their powers. This is still left completely with the medical examining committee, or the medical examining board, whichever it might be termed in any particular state.

In conclusion, I have been asked to summarize what the other speakers on the program have said.

As far as Mr. Parriott's speech is concerned, the things that struck me were the points he stressed, such as the need for a thorough investigation on all points, and the help that could always be obtained from the Federal Bureau of Narcotics and the Food and Drug Administration. If such an agency is not involved, Mr. Parriott recommended the employment of a professional investigator, with the comment that board attorneys are usually not trained in investigative techniques, and that a competent investigator can get more information faster than an equally competent attorney.

He emphasized the care which must be taken in selecting both lay and expert witnesses. He emphasized the great value of such real or tangible evidence as blood analysis, quack devices, and so forth—something tangible that can be taken before a board or before a jury if there happens to be a subsequent appeal before a jury in the trial court.

Under organizing the facts, he suggested the proper order in which facts should be presented, going from the general to the specific. The purpose, of course, is to build up an adequate and clearly stated record in case a later review is required.

Under procedure at board hearings, he discussed the actual steps followed by the Colorado Board in conducting its hearings. I am sure this part of his talk struck a responsive chord with those of you who are intimately connected with these hearings in your work with the boards.

Mr. Glenn emphasized the limitations that are placed upon licensing boards. He pointed out that they have no inherent power but that due process of law must exist before a license may be revoked. He mentioned the hearing officers provided for under the new Kentucky act, and pointed out that they conduct a meeting and then turn the matter over to the board which actually makes the decision. It is not the hearing officer who makes the decision. It is the board itself.

Mr. Glenn pointed out that appeals are determined by the particular provisions of each and every medical practice act. They might be the same or they might not. Of course, you must always follow your own medical practice act.

Mr. Glenn further pointed out that rules of evidence are not as strict in hearings for revocation matters as they are in hearings before a court but that, nevertheless, the evidence which is finally put down in black and white in the record must be sufficient to support any ruling which the board makes.

Finally, he urged that members of the board respect legal curiosities and oddities which the doctors themselves might not understand and might not fully appre-

ciate because eventually the record is going to be reviewed by lawyers rather than doctors and, therefore, every element of the case must be set down in a form with which lawyers are familiar.

DISCUSSION

K. D. Graves, M.D., Roanoke, Va.: Who pays the expenses of the hearing?

Mr. Glenn: The expenses of the hearing officer, as we call him in Kentucky, are paid for by the State Board of Health, and he may be one of the members of the staff of the Kentucky Department of Health. The State Board of Health is in the Kentucky Department of Health, and the hearing officer may well be a member of the staff of the Kentucky Department of Health, so eventually there would be no additional expense incurred. However, the law authorizes the State Board of Health to employ hearing officers if it so desires, and leaves a great deal of latitude and discretion in that respect. Of course, it should procure someone who is familiar with the rules of evidence and the conduct of the hearing, to make a good record which the court will sustain on judicial review.

Creighton Barker, M.D., New Haven, Conn.: Mr. Hall stated that there are two methods of approaching a hearing of charges under the Connecticut law. Actually, the facts are these. Historically, we had three examining boards in Connecticut; a board in eclectic medicine, a board in homeopathic medicine and a board in regular medicine. In 1925, the eclectic board was abolished. The Board of Healing Arts serves as a grievance committee only, to hear charges brought against physicians licensed by the now long defunct eclectic board. There is no other approach to the Board of Healing Arts.

Joseph J. Combs, M.D., Raleigh, N. Car.: How do other boards handle the question of mental incapacity or the mentally deranged in the revocation of a license? We had a situation where a man was brought before our board accompanied by hospital attendants and we persuaded him to surrender his license. Was this legal?

Mr. Glenn: That does not present a problem where the statutes do not expressly give the power of revocation for that reason. We recognized that problem in Kentucky, and made physical or mental condition rendering continued practice dangerous to the public as one of the statutory grounds of revocation or suspension of a license. However, we felt that, even under the former law, where one actually had been adjudicated as of unsound mind, or had been committed, the court adjudicating the person as of unsound mind should see to it that he does not practice medicine or engage in any business that might be hazardous to the public until he has been restored to sound mind. Of course, that did not take care of the entire situation. There are a lot of people who are mentally ill who are not necessarily of unsound mind. The new provision in the Kentucky statutes is in recognition of the fact that mental illness may exist without the person being in such condition that he has to be committed.

Specifically answering your question, if a man is unable to defend himself, it is a question whether you have a right to take away that property right.

Michael Cassock, M.D., Milwaukee, Wis.: The general procedure in Wisconsin is that anybody who has been declared by the court as mentally ill is suspended from practice but his license is not revoked. His license automatically is restored when he has obtained his civil status, when he is pronounced recovered by the courts, or he has outstayed one year on a conditional release or parole. Then we automatically certify that he is competent.

Dr. Vest: It is hardly fair to a man who is mentally ill to revoke his license. It should be suspended until his mentality is restored. A man who is mentally ill is not in the same position as a man who has violated the narcotics act. It is not due to his own act at all. It is a condition over which he has no control.

Mr. Oliver Field, Chicago: The Bureau of Investigation of the American Medical Association does not have any list of

expert witnesses in any particular field of medicine that would be available to a board of medical examiners. I mention this to clear a point. By the same token, I rather doubt that the Food and Drug Administration would have a staff of experts who might be available. They hire them on individual cases as needed, although they do have their medical officers and do have people who are expert in some particular phase of quackery.

William F. Quinn, M.D., Sacramento, Calif.: In California we have a quirk in the law so that we can only suspend a license for one year. In the case of a man who is mentally ill, we prefer not to revoke his license. In many instances we have had the doctor in the case, through his attorney, stipulate that he will not practice medicine until a hearing is held. We do not hold the hearing, we merely continue it. If he is declared cured, he comes before the board and we dismiss the charges, and there is nothing against his record.

Charles Shafer, M.D., Kingston, Pa.: Physicians in Pennsylvania register each year. Thus when a man is mentally ill or is committed to an institution for whatever cause, his registration is taken away but not his license.

Dr. Vest: In a medical practice act which gives the licensing board the power to revoke a license, or to suspend a license,

but makes no statement about the reinstatement of a license that has been revoked, does the board have the legal right to restore a license after it has once been revoked?

H. M. Platter, M.D., Columbus, Ohio: The Ohio Statute states that the medical board may revoke a license. He can get it restored by appeal to the courts. He goes to the Common Pleas Court and then may go to the Court of Appeals and to the Supreme Court. Our Attorney General has ruled that when we have revoked a license we have no power to hear the case anew. If we suspend a license, it is still within the jurisdiction of the board.

Mr. Glenn: That is a matter of statutory construction for each state. Different state courts follow different rules and theories of statutory construction. I would be reluctant to advise you generally on what the law is in your state. I would confer with a West Virginia lawyer or the Attorney General.

J. Earl McIntyre, M.D., Lansing, Mich.: Michigan differs in that it has the power of suspension for not less than six months but indefinitely. A revocation by our board is final, so final that the applicant has to make reapplication as originally before a revoked license can be restored by the Michigan board.

MONDAY EVENING SESSION, February 9, 1953

FEDERATION DINNER ADDRESS

Walter E. Vest, M.D., Toastmaster

MEDICAL LICENSURE

Louis H. Bauer, M.D., Hempstead, N. Y.

In the early days of the country there was little control over who should practice medicine. Dr. Bierring when President of the American Medical Association outlined the early history of licensure as follows:

"For more than a century and a half after the permanent colonization on the eastern seaboard, the license to practice was granted by the teacher and the only participation of the civil authorities was the registration of this certificate in a court of records."

Medical societies began to be organized, the first being that in New Jersey. They took interest in licensure. In 1781 to 1782 the medical societies of Massachusetts, New Hampshire and Connecticut received charters authorizing them to grant licenses. About 1835 the authority of medical societies began to be taken away by state licensing boards. In the early days, no examination was required of the graduate of a medical school, only the presentation of a diploma. Eventually, however, licenses were issued almost entirely on examination with the requirement of certain professional education.

When the Council on Medical Education and Hospitals of the American Medical Association was organized, one of its first tasks was to elevate the standards of medical education in this country. With only a comparatively few first class schools, but many inferior, commercial and diploma mill type of schools, it was a herculean task. Order eventually came out of chaos and today no unapproved school of medicine exists in this country.

Medical education has progressed from a preceptorship to a state where three years of college training is required before entering medical school, then, four

years of medical school and finally intern training after graduation.

Although the Council on Medical Education has no legal status, its pronouncements on medical schools have come to be very largely accepted by state licensing boards. Schools not on the approved list of the American Medical Association are not considered as giving the proper training to admit a graduate to take the state licensing examination.

In 1915 there was created the National Board of Medical Examiners. The examination by this Board now is accepted by all but two of the states. In other words, a physician who holds the credentials of this examination is exempt in most instances from further examination in order to practice in those states recognizing the board.

Many states, too, have reciprocity and recognize each other's licenses. A few states are adamant in recognizing the credentials only of their own examining boards.

The question has often been raised of why not abolish state boards and have only a National Board and thus permit those who passed it to practice anywhere in the United States? Will this ever come to pass? I doubt it. States are jealous of their rights. The increasing encroachment of the federal government into fields belonging exclusively to the states will not tend to make the states relinquish one more right. It would seem that a far easier task of accomplishing the same end would be to persuade those states which do not recognize the National Board of Medical Examiners to do so. Then a physician could take one examination and settle wherever he pleases. With only two states to persuade, this would not seem

an insuperable task. I understand that one state objects at least in part because it would permit physicians to come there during only one season of the year. If this is true, it would seem that this could be handled by issuing licenses only to bona fide residents of the state.

The value of licensure has decreased in recent years because of the licensing of cultists. This varies in different states. Some have established basic science boards whose examinations must be passed by any practitioner no matter what his school. This has not eliminated cultists, however. Then in some states there are multiple boards and the candidate may appear before the board examining in his particular school of therapy. Some states require that the cultists pass the same examinations as physicians.

With chiropractors and naturopaths licensed to practice in many states, sometimes with no restriction on what they may do, it cannot be said that the present system of licensing is very satisfactory. There seems little likelihood of the system changing except for the worse. More and more cultists are being licensed and they are permitted to do more and more. When the federal government pays for the instruction of G. I's in chiropractic it is a sad commentary on the intelligence of the federal government or on its consideration for the welfare of the public.

The medical profession in my state is constantly called upon to effect some compromise so that chiropractors can be licensed. In my opinion one cannot compromise with fraud. Chiropractic is not based on any scientific principles whatever. It has been stated that the legislature is tired of facing the problem and may pass a bill legalizing chiropractic unless the medical profession consents to some compromise. I wonder what the legislature would say if it were asked to pass a bill legalizing racketeering and gangsterism on the New York water front, merely because it is known to exist and that would be the easier way to settle it? To legalize chiropractic merely because it exists and is an annoying problem and to get it out of the way, is exactly in the same class. Racketeering is racketeering and fraud is fraud whether it affects the New York waterfront or the health of the people.

The only solution I can envisage is a long hard one. That is steady, intensive and widespread education of the public. The public is interested in its own welfare. It will listen to reason, but when it hears only the voice of cranks and quacks it cannot be blamed if it falls for their propaganda.

Another problem we face in the matter of licensure is possible licensure of specialists. We now have specialty boards who certify physicians as competent to practice certain specialties. This is somewhat similar to the situation when medical societies licensed physicians to practice. Will we go through the same procedure with specialists which we did in the case of licensure—that is, will the state gradually take it over and permit only a licensed specialist to practice his specialty? I said the situation was somewhat similar, but it is not entirely analogous. Should the state take over it would be very difficult to limit what a physician could or could not do. It would seem that the most that could be done would be to prevent anyone not licensed as a specialist from being listed anywhere as such.

Again, should the state take over, would it accept the examinations of the specialty boards, give its own or accept either one as sufficient evidence of qualification? There would doubtless be a great hue and cry were the state to accept *only* the board examinations. As we all know there are many men doing work in special fields who are very competent, who do not have board certification. On the other hand, were there to be two examinations, the state examination would certainly lower the prestige of board certification.

I have no answer to the problem, but it is something to which we should give careful consideration. One thing I can suggest is that wider publicity be given to the present methods of certification and to the value of special society memberships, where such membership is dependent on special qualification. The public is demanding some way of determining who is a competent specialist and who is not. The general public today knows little about the specialty boards or special societies.

The public should be educated as to what the profession is doing in the matter of postgraduate education in order to provide more highly trained physicians, and the public must also be given some way of knowing who has had special training and who has not, and who is rated by his own confreres as qualified. The average patient today has not the faintest idea how to find out. Such knowledge would help to eliminate the evil of fee splitting. If the patient knew his rights and knew what credentials and qualifications to ask about there would be less danger of his being steered.

While this has nothing to do with licensure, it has with specialization, and I should like to repeat what I have said before, namely that the pendulum in specialization has swung too far. As a result we are producing too many specialists and too few general practitioners. The patient is caught in the middle. He often gravitates from specialist to specialist at a cost beyond his ability to pay. I do not mean to imply that we should prevent a man from becoming a specialist, but I do believe that the best specialist is one with a background of general practice and that our present system does not provide that background and it tends to deter men from going into general practice.

To return to the question of licensure, we all know that state boards are not uniform in their capacities nor in the tests they give. That accounts often for the refusal of one state to recognize the credentials of another. Before closing, I should like to quote some sage remarks made by a sage individual in 1934. Rev. Alphonse M. Schwitalla said then:

“Let us turn to the question of the actual licensing once the eligibility of a candidate has been determined. This would be the place to attempt an evaluation of the personnel of the state boards. Generalizations here would be dangerous. The only one which seems justifiable to me without a very careful presentation of my point of view as a basis for this generalization is this: that without doubt the personnel of the state boards is extremely diverse in its capacities for its work in different sections of the country. This generalization, of course, is a truism and applies with equal force to street car conductors and section bosses as well as it does to lawyers and ministers.

Nevertheless, it needs stressing because these state boards carry so huge a responsibility for the maintenance of public welfare, public health and public morals. If the state boards do not exercise firmly, disinterestedly and vigorously the power that has been vested in them in favor of or against those candidates whose eligibility or non-eligibility has become apparent from such tests as are at our disposal, then all the refinements of modern psychology, of educational psychology, of vocational

guidance, of confidential direction, are worse than useless. The state boards must in the last analysis be made up of such men as are able to carry the public responsibility imposed on them."

We have many problems and probably always will have. However, we must be far seeing and endeavor to meet these problems with constructive solutions and not wait until something unfavorable is an accomplished fact and then try to change it.

TUESDAY MORNING SESSION, February 10, 1953

Walter E. Vest, M.D., Presiding

THE OSTEOPATHIC PROBLEM

Walter E. Vest, M.D., Huntington, West Virginia

What I shall say here represents my own personal impressions and opinions. No effort will be made to document my statements nor will they be exactly factual, representing what I conceive to be, in military parlance, an estimate of the situation. It is to be clearly understood that I make no attempt to express the sentiments of the Medical Licensing Board of West Virginia, of the Federation of State Medical Boards, or of organized medicine generally. I shall merely portray the over-all problem as I personally see it and make such suggestions as will afford a final long range solution.

That there is an osteopathic problem should be obvious to all who are interested in professional licensure. On the one hand, we have a group claiming equal rights and privileges with another group, and struggling to attain that equality without complying with the legal standards imposed upon the other group. At least in some of the states such a situation exists. On the other hand, the opposite group, at least ten times as numerous as the first group, demands the same standards and the same examinations for equal rights and privileges. To say that a medical licensing board and an osteopathic licensing board can have equal authority and issue certificates of licensure on behalf of the state to do exactly the same things with exactly the same rights, privileges, duties and obligations, is not only illogical, but cumbersome, overlapping, uneconomical and just ordinary nonsense. Plain common sense demands one licensing board, one set of standards and one examination when the licentiates as individuals are to be on a par legally with each other.

It can be admitted that a large majority of the present recruits to the osteopathic profession make the best possible use of the educational facilities available to them. Also, most of them endeavor to shake off the shackles of cultism and follow the paths of experimental scientific demonstration, and in actual medical practice, repudiating the philosophy of their founder, they adopt the procedures of regular medicine. We would admit also that the doctors of medicine have everywhere frowned upon osteopaths, regardless of individual ability, and often have been openly hostile. Despite these handicaps, the osteopaths are progressing and rejecting more and more the dicta of their founding father are drawing closer

and closer to scientific medicine, and actually attempting to practice as do the graduates of regular medical schools. No longer is Andrew Taylor Still their patron saint; they worship at the shrine of Aesculapius.

The objective of licensure of all the healing arts is to insure adequate medical care for the general populace and we doctors of medicine boast that the patient's welfare is our prime consideration. From that point of view alone, why should we not at least offer to help the osteopaths in their efforts to attain scientific medicine and secure more adequate training and to fit themselves to better serve their patients?

Thucydides is alleged to have said that history is philosophy learned from examples, and Patrick Henry proclaimed experience the lamp which illuminated his pathway. History is unquestionably a light from the past to guide the footsteps of the present into the future. The historical examples applicable to our situation with the osteopaths are, of course, homeopathy and eclecticism. These cults, or so-called "schools" of medicine, were integrated into the regular profession and their educational institutions either transformed into acceptable schools, united with other acceptable schools, or closed. Their graduates were granted legal equality with the regular physicians, and were accepted into the medical societies. In at least one of these schools, homeopathy is still taught. Why should we not plan then to integrate osteopathy into regular medicine?

As a matter of fact, the osteopathic schools have forsaken the "cult" concept of education and have embraced rather the scientific concept of experiment and proof of results. These schools now approximate the unapproved medical schools of a third of a century ago. Their chief weaknesses are lack of sufficient equipment and the inability to secure satisfactory teaching personnel, especially in the basic sciences. Despite these handicaps, a definite percentage of their recent graduates have fairly good training. Their schools are now making a definite effort to improve standards and their graduates are endeavoring to continue training on a postgraduate level.

What would be an equitable basis for beginning integration? It seems to me that the first step should be composite boards. These could be set up with osteopathic representation approximately in proportion to the rela-

President, Federation of State Medical Boards of the United States.

tive numbers of osteopaths and doctors of medicine licensed in the state at the time of the formation of the composite board and should blanket in all practitioners licensed at the time. Subsequent applicants, holding either the degree of Doctor of Medicine or Doctor of Osteopathy, should be licensed to practice medicine and surgery in all branches with equal rights and privileges on the basis of satisfactory grades achieved on the same examination. Those candidates desiring to practice osteopathy alone without prescribing drugs and/or doing surgery should be licensed to do so upon successfully passing an examination in the basic sciences and osteopathy alone, the latter being given entirely by the osteopathic members of the board. Licensure by endorsement of credentials should be discretionary and only on the basis of full licensure to practice medicine and surgery achieved by examination, except in the case of those osteopaths desiring to practice only osteopathy without using drugs and/or doing surgery when satisfactory basic science grades have been attained from either a basic science board or a medical licensing board and satisfactory grades in osteopathy from an osteopathic examining board.

The next step, and this should follow immediately, should be the admission of those osteopaths who have attained full medical licensure to postgraduate training in regular medicine and eligibility to apply for membership in the county medical societies.

The succeeding step in full integration should be the inspection and grading of the osteopathic schools by the Council on Medical Education and Hospitals of the American Medical Association. It has been almost two decades since the Canadian inspection and both osteopathy and osteopathic schools have made much progress since then and have continually drawn nearer scientific medicine. Simultaneously with permission for inspection, the doors should be opened to these schools to obtain teaching personnel from the regular profession, and an earnest effort should be made by medicine to help elevate their standards and work, especially in the basic sciences. When an osteopathic school is classified as an acceptable medical school by the Council on Medical Education and Hospitals, matriculants should be given their choice of graduating with the degree of Doctor of Osteopathy or Doctor of Medicine.

I realize that full integration must of necessity be an evolutionary process and will require a long time for full fruition. One of the chief difficulties will be overcoming the prejudices of the "die hards" in each group, most of whom are elderly individuals. But the osteopaths are here and they present a very definite problem, both for themselves and for regular medicine. It is obvious, whether they admit it or not, that they actually are endeavoring to move into scientific medicine. Why should we not help them to attain their objective? It seems to me that it would be better for them, for us, and for the populace generally, to lend them a helping hand rather than to force them, in the language of Milton, to "creep, and intrude, and climb into the fold." Moreover, I believe it would be good politics and good public relations. I am under no illusions, however, as to the length of time and the amount of patience and energy necessary to accomplish complete integration, but I predict that some-

time such integration will be achieved along the general lines indicated herewith and I believe the time is now ripe for us to extend the olive branch and at least offer to aid in undertaking a solution.

MULTIPLE CHOICE — OBJECTIVE EXAMINATION. EXPERIENCE OF THE MISSOURI BOARD OF MEDICAL EXAMINERS

Francis T. H'Doubler, M.D., Springfield, Mo.

The multiple choice examination is not new. It is, however, new to state boards of medical examiners and like everything new it finds opposition. I am sure that the fountain pen, typewriter, telephone, dictaphone, adding machine, automobile, radio and the I.B.M. all met with initial opposition. This initial attitude of opposition to things worth while does not indefinitely impede progress but the universal attitude of opposition to things new does prevent us from taking on crack pot ideas ad lib, so when something new comes along it has to survive a certain amount of opposition and prove its worth or else it is discarded.

Under the old type examination, an examinee would write in essay form the answers to a limited number of questions. The number of questions had to be very limited because of the time consumed in writing the answers. In the multiple choice examination, there is a great number of questions and under each question are proposed several answers. Instead of writing an answer, the examinee fills in a square opposite what he thinks is the correct answer. In the entire examination he does not write a word. He fills in the squares with a pencil and the answer sheets are run through the I.B.M. and automatically graded.

The merit of the system lies in the fact that time saved by not writing can be utilized in having a long list of questions. On chance and with a very limited number of questions, a student might be out of luck if he happened to be asked several questions which he could not answer. But if some 600 questions are asked the candidate has a good chance to show that he knows something.

The Missouri Board has been giving 200 examinations a year. Heretofore, each examiner has been responsible for two subjects. If there are ten questions for each subject, there will be twenty answers to grade for each applicant. With 250 examinees, this means 5,000 answers. Nobody can go through that many papers and retain patience and not become fatigued. Consequently, there will be an unevenness in the way the papers are graded. This is entirely eliminated when the I.B.M. is used.

The questions come in a booklet. With the booklet are sheets for the various examinations. These sheets have the proposed multiple answers and the squares to fill in. Mr. John Hailey, Executive Secretary of the Missouri Board, has devised a simple method of giving out the booklet and answer sheets. This he does by a number system that is followed through the two day examination. It is important that the booklets and sheets all be turned

in each half day. The examinations are conducted without confusion.

The questions are prepared by professors in a number of medical schools and are revised annually. If a question is ambiguous and causes trouble to too many examinees it is ruled out and the cards are run back through the I.B.M. for regrading with the defective question ruled out.

To recapitulate, in the old method the student spent considerable time writing and the number of questions were few. Grading the papers was incapable of evenness. With the new method, the student spends no time writing but answers a very great many questions. The examination sheets are graded with absolutely no unevenness and incidentally the applicant has a better chance to pass.

Let us take the records of the students of a graduating class as an index as to quality, character and qualifications. These records are over a four year period and form a pattern as to the abilities of a student relative to those of his various classmates. Let us then line the students with their relative showing in the multiple choice examination. If a student who stood first during his four years in medical school should stand first in the objective examination, and if likewise the second in his class should stand second in the objective examination, and similarly with the third and fourth and so on, then we would have a perfect correlation. In reality, things do not come out that way. We do not get a perfect correlation. The Professional Examination Service went over the results of our examination and correlated them with the four year records of the students. We are in a fortunate position in this respect in that most of our examinees come from Washington University School of Medicine and St. Louis University School of Medicine so that their records are available. The Professional Examination Service also correlated for Washington University the results of the written examinations in 1951 with the students' records over the previous four year period. A comparison of the correlations so obtained is very revealing and more than justifies the objective method.

During the multiple choice examination, we circulated among the students and when they had finished some portion of the test we questioned them as to their reactions to the type of the examination. We found that they universally like and preferred it. None disliked it. A good many had previously taken examinations of this type while in the Army or Navy.

Washington University School of Medicine		
School Graduates and Essay Tests		Correlation
Scores 1951	74 students	0.40, P.E. = 0.07
School Graduates and Objective Tests		
Scores 1952	71 students	0.64, P.E. = 0.05
St. Louis University School of Medicine		
School Graduates and Objective Tests		
Scores 1952	113 students	0.71, P.E. = 0.08

These figures are not grades. They refer to correlation. Note the .64 for the objective test versus the .40 for the essay test. The figures show that scores obtained on the objective test agreed far more impressively with the four year grades of the candidates than did the scores obtained on the essay test. To repeat, the objective test is fairer to the student and completely eliminates unevenness in grading.

The Professional Examination Service has given us a report on the objective examination which they prepared for us and have made a detailed statistical analysis of the scoring results. This report is as follows:

A Report on an Objective Medical Licensing Test Used by the Missouri Board of Examiners—1952

In June and July of 1952, 238 candidates for medical licensure in Missouri were given a written examination that had been prepared by the Professional Examination Service.¹ This examination consisted of 545 multiple-choice questions distributed among the various subject-matter areas in the manner shown in Table I. An example

TABLE I.—Schedule of Medical Examination

First Day		Subject	Number of Questions
8:30 to 9:30		Instructions to applicants	
9:00 to 11:30	Part I	Physiology.....	30
		Chemistry.....	30
		Microbiology.....	30
12:30 to 3:00	Part II	Anatomy.....	45
		Pathology.....	45
3:00 to 3:30	Recess		
3:30 to 5:30	Part III	Etiology.....	15
		Diagnosis.....	45
		Clinical Pathology.....	15
Second Day			
9:00 to 12:00	Part IV	Hygiene.....	45
		Obstetrics and Gynecology.....	45
		Pediatrics.....	25
1:00 to 4:00	Part V	Neurology and Psychiatry.....	25
		Ophthalmology.....	15
		Otorhinolaryngology.....	15
		Dermatology.....	15
		Urology.....	15
		Medical Jurisprudence.....	15
4:00 to 4:30	Recess		
4:30 to 6:30	Part VI	Therapeutics and Toxicology.....	45
		Surgical Procedures.....	30
Total			545

Although a number of question forms have been developed, the one most generally used is the multiple-choice question. A sample of such a question is:

Which of the following physical findings will most typically be noted over the involved area after the occurrence of a large superficial pulmonary infarction?

1. Flat percussion sound, absent friction rub and loud bronchial breath sounds.
- * 2. Impaired resonance, friction rub and distant bronchial breath sounds.
3. Highly resonant percussion sound, pectoriloquy and exaggerated vesicular breath sounds.
4. Normal resonance, decreased tactile fremitus and absence of breath sounds.
5. Increased resonance, decreased vocal fremitus and normal vesicular breath sounds.

* The answer.

of the type of question used is given at the bottom of the table. This table also shows the amount of time allotted to each part of the examination. The same examination was given during the spring and summer of 1952 by the Oregon and Wyoming Medical Licensing Boards.

The examination papers were returned to the Professional Examination Service for scoring and analysis but the setting of the passing point was determined by the Missouri Board. The following reports were received from the Professional Examination Service:

1. Tables of scores in nine subject-matter areas (as required by the Missouri law) and a total score for each candidate. In Table II, a sample of this report is given for hypothetical candidates.

¹ The method used by the Professional Examination Service in developing its examinations is described in an article printed in the Proceedings of the Annual Congress on Medical Education and Licensure of the American Medical Association, Feb. 12-13, 1951, pp. 45-48.

2. Frequency distributions showing how many questions were answered correctly in the whole test by how many candidates. Information concerning the average score on the test, the reliability of the test, etc., was also presented. (Table III)

3. Frequency distributions showing how many questions were answered correctly on each of the nine subtests by how many candidates. (Table IV)

The board requested the Professional Examination Service to prepare the final grades, not as per cent scores, but as converted scores according to approved statistical methods.

TABLE II.—Scores in Nine Subject-Matter Areas and Average Score

Ident. No.	Physiology	Chem.	Micro-biol.	Anat.	Hyg.	Obstet. and Gyn.	Ther. and Tox.	Prac. of Surgery	Prac. of Medicine	Average
1001	83	76	75	64	84	79	87	71	76	77.22
1002	83	79	75	79	80	75	83	73	81	78.67
1003	90	82	90	86	89	72	82	80	84	83.89

TABLE III.—Missouri Medical Licensing Examination

Distribution of Total Raw Scores *			
Raw Scores	Frequency	Raw Scores	Frequency
400-409.....	2	300-309.....	17
390-399.....	3	290-299.....	13
380-389.....	7	280-289.....	7
370-379.....	13	270-279.....	9
360-369.....	16	260-269.....	5
350-359.....	22	250-259.....	4
340-349.....	28	240-249.....	1
330-339.....	39	230-239.....	2
320-329.....	30	220-229.....	..
310-319.....	19	210-219.....	1

Average Raw Score = 328.73
 $\sigma = 33.64$
 Maximum Possible Score = 480 ** Reliability of test = 0.91

* The raw score is the actual number of questions answered correctly.
 ** 65 of the original 545 questions were dropped from the final score because they were, on statistical analysis, considered not to be satisfactory.

TABLE IV.—Missouri Medical Licensing Examination

Frequency Distribution of Raw Scores and Corresponding Converted Scores					
Physiology					
Raw Scores *	Converted Scores	Frequency	Raw Scores *	Converted Scores	Frequency
27	97.56	3	19	81.65	17
26	95.12	12	18	80.70	14
25	92.68	15	17	79.75	11
24	90.24	31	16	78.80	7
23	87.80	31	15	77.85	2
22	85.36	33	14	76.90	2
21	83.55	37	13	75.95	1
20	82.60	21	12	75.00	1

Number of candidates = 238
 Average raw score = 21.45
 $\sigma = 2.84$
 Lowest and highest score = 12-27

* The raw score is the actual number of questions answered correctly.

Tables III and IV show that the scores of the candidates were distributed in the familiar bell-shaped curve and that the test was satisfactory with respect to difficulty level and reliability.²

Of the 238 candidates examined, 114 were graduates of St. Louis University and 87 of Washington University. These two schools were asked to provide course grades and final grades for these students and for the class grad-

² Reliability is a measure of the degree to which the candidates could be expected to obtain the same scores on repetition of the test.

uating in 1951. This latter class had taken an essay test for licensure. The grades thus obtained were used to determine how much agreement there was between the scores obtained on the licensing tests and school grades and to determine whether there was more agreement with the essay test or the objective test.

Washington University provided transcripts of all students for both the 1951 and 1952 classes as well as a final over-all general average for each student expressed as a rank in his class. Four-year students and transfer students were ranked separately. The two sets of ranks could not be combined so that the correlations between final ranks and test scores were obtained only for the larger group of four-year students.

TABLE V.—Correlations* Between Final School Grades and Test Scores

Washington University	
School Grades and Essay Tests Scores, 1951, 74 students.....	0.40, P.E. = 0.07
School Grades and Objective Test Scores, 1952, 71 students.....	0.64, P.E. = 0.05
St. Louis University	
School Grades and Objective Test Scores, 1952, 113 students.....	0.71, P.E. = 0.08

* The correlations were obtained by the product-moment method.

These figures show that the scores obtained on the objective test agreed far more impressively with the four-year grades of the candidates than did the scores obtained on the essay test.

In the following subtest areas, it was possible to obtain scores on the essay examination of 1951 which could be compared with scores obtained on corresponding areas in the objective test of 1952. Correlations were therefore obtained between the test scores in these areas and the course grades in these subjects provided by Washington University. The results are presented in Table VI.

TABLE VI.—Product-Moment Correlations Between Course Grades and Test Scores

	(Washington University)				
	Anatomy	Chem-istry	Physi-ology	Surgery	Hygiene
Essay Test, 1951, 72 students	0.06 (0.08)*	0.08 (0.08)	0.27 (0.07)	0.21 (0.08)	0.20 (0.08)
Objective Test, 1952, 71 students	0.44 (0.06)	0.42 (0.07)	0.39 (0.07)	0.45 (0.06)	0.16 (0.08)

* The numbers in the parentheses are the probable errors of the correlations. The correlation must be equal to at least four times the probable error in order to justify the conclusion that a relationship greater than zero exists between school grades and test scores.

With the exception of Hygiene all correlations between test scores and school grades are higher in the case of the objective tests than the essay tests. None of the correlations between the essay test scores and the course grades are significant. All of the correlations between the course grades and the objective tests, with the exception of Hygiene, are significant.

These results indicate, therefore, that the scores on the objective tests may generally be said to agree to a greater extent than do those on the essay tests with the grades given to students by their medical faculty. This objective test, therefore, provided a better measure of medical ability, as gauged by medical school faculty over a four-year period, than did the essay tests previously used by the Missouri Board. The Board has therefore decided to continue the use of the objective test prepared by the Professional Examination Service in 1953.

St. Louis University supplied over-all course grades of students taking the examination in 1952. Individual course grades were not made available for either the 1951 or 1952 graduation class; nor were over-all course grades supplied for the 1951 graduating class.

The correlations obtained between final academic grades and scores on the licensing examinations are shown in Table V.

When a boy goes to medical school and passes all the examinations and tests required for graduation we recognize his intimate standing so obtained as something which we use as a measure in order to gauge the fitness of our examination for licensure.

MULTIPLE CHOICE—OBJECTIVE EXAMINATION. EXPERIENCE OF THE OREGON BOARD OF MEDICAL EXAMINERS

Wilmot C. Foster, M.D., Portland, Ore.

On the first introduction of the objective scoring method of examination, I was opposed to it. My experience with it had been derived from my medical school teaching where my assistants and myself had personally devised a series of yes and no, true and false type of questions. These did not prove satisfactory or illuminating so we reverted to the essay and oral tests, because we felt we were able to obtain a truer picture of the student's knowledge or lack of it. We felt also that we were able to judge if a student had any organizational plan of study as well as acquisition of knowledge. We felt we procured a more personal evaluation of the student in spite of the many inequalities and disadvantages of correcting and writing an essay examination.

When I became a member of the Oregon Board of Medical Examiners, I was prejudiced and when Dr. Hubbard of the National Board of Medical Examiners presented his paper a year or so ago I still was not convinced but we decided to give it a trial.

In our opinion, the multiple choice type of questions are the most ideal for a medical examination of all the types used in objective scoring and is much more comprehensive than the other forms. We feel it has many attractive attributes but the essay examination should not yet be exterminated entirely from our armamentary of examination. Our feelings have been crystallized in favor when possible of the objective examination because

1. Greater thought is used in development of the average questions.
2. Highly specialized and unbiased teachers of medicine are used.
3. Greater clarity of questions is apparent.
4. Student and corrector fatigue and personality facets have been largely eliminated with their many errors.
5. Rapidity of computation of grades with machine accuracy is obtained.
6. Greater satisfaction of examinee and examiner without reflection of special privilege is attained.

In a recent memorandum from the National Board of Medical Examiners, it would appear in their experimental studies with the medical students in the subjects of pharmacology and medicine using objective multiple question scoring that

1. There is a high degree of relationship between objective tests and school rating.
2. The percentage of honor and failing grades was about the same as occurred the past six years with essay tests.

The examinations of the National Board involved 500 or more students. We conducted an examination using both objective and essay methods for a group of 26 medical school graduates who had completed at least one year of internship. Later we gave it to a group of 14. Of the 26 in the first group, there was a marked similarity in grades as given without prior knowledge of the objective outcome by the examiners of the essay tests. There was

Secretary-Treasurer, Oregon Board of Medical Examiners.

one failure and this involved the same individual. In the second group of 14, there was also one failure.

In conclusion, after following the trends and feelings of the past several years, I wonder if this subject is but a phase in the evaluation of medical education.

Dr. Hubbard two years ago said:

1. The primary function of the National Board of Medical Examiners is to test candidates as to their medical knowledge and ability to apply that knowledge.
2. If a better examination procedure can be devised the National Board will use it.

There are 45 states which accept the National Board certificate and few states can compete with it. With its scholars and teachers and enviable record of honesty and progress, we may prophesy that in the near future there will be no purpose for individual state boards to conduct examinations except possibly for foreign graduates.

Lest we be too affected by this last statement I should like to go further. We also accept the Council on Medical Education and Hospitals of the American Medical Association as a qualified body to pass on the curricula of a medical school, its physical equipment and standards of teaching. I, therefore, see no particular reason for the National Board in the near future. Its tasks too may soon have been completed as a post graduation examining board. I can see little reason not to accept a graduate from a Class A medical school without post graduation examination. Our state boards have many other problems to keep them intact and busy.

DISCUSSION

Lillian D. Long, Ph.D., New York: Reminiscing on the experience of the Professional Examination Service from a perspective of two years, some of it we think has been good but because we, ourselves, are rather difficult to please, we hope to have further opportunities to do a still better job.

Two years ago, when we began work on this examination, we had some small and some large goals. Our basic objective was the same as that which motivates boards of medical examiners, namely, to develop a test which would pick out from the candidate population those who were qualified to practice medicine and, on the other hand, to be sure that those not qualified would not pass.

We hoped to be able to develop a complete test for medical licensure that would make use of the objective type of questioning throughout because we believed from our experience in the evaluation of professional people that this type of question serves best the interest of those who ask and those who answer.

We hoped to render a testing service to medical board examiners that would combine ease and efficiency of administration with a testing instrument incorporating the best results of a decade of experience in this field and we hoped to make it available at a fee within the reach of medical boards.

We hoped that this examination could be shown to be an intrinsic part of the whole process of medical education, and that the approximately 550 questions, administered in two days, would rank medical students in an order that would be comparable to the order in which the medical faculties placed them on the basis of knowledge of students that they had acquired over a period of four years.

In short, we hoped that what seemed to us to be a necessary and logical application of modern testing methods would effectively serve the interests of the examiners, the candidates, medical educators, and above all of these, the public.

Two years ago, I presented to this group a paper which described in detail the methods of the Professional Examination Service in developing objective examinations. I should like to digress here to review briefly for you the basic principles of these methods.

The full time staff of psychologists and editors work cooperatively on the development of examination material with part time consultants. The consultant in the medical sciences is Dr. John M. Pearce, who is Professor of Pathology and of Pathology in Surgery at Cornell University Medical College and Surgical Pathologist at the New York Hospital. Under his direction, some 350 physicians have helped in the development of the medical licensing test, either by writing or reviewing the questions.

The subject matter coverage of the examination was based on a careful analysis of medical practice acts in all states. To the best of our knowledge, the examination includes material in all of the areas required by the various acts.

The reports that we have heard, and the statistical analysis of the results lead us to believe that we have achieved some of the objectives that we set out to accomplish. We were able to render the boards quick and efficient service in supplying them with examination materials, in scoring papers, and in reporting results. Candidate reaction was generally favorable. The form of examination is familiar to present day medical students and they like it because the large number of questions gives them wide scope for demonstrating their knowledge and the rapid reporting of results enables them to begin their professional practice without prolonged delay.

The Professional Examination Service was indebted to Dr. Moore of Washington University and to Dr. Grebel of St. Louis University for making available the grades of their graduating classes in 1951 and 1952. This made it possible, not only to correlate the academic grades of the 1952 class with the new, objective test, but also to obtain a correlation between the grades of the 1951 class and the scores obtained on the essay test prepared and administered by the Missouri Board in 1951. The correlation of the objective tests with the academic grades of 71 Washington University students, over a four year period, was .64. The correlation obtained between medical school grades and the essay test of 1951 was .40, a difference distinctly in favor of the objective test. In short, far greater agreement exists between the scores obtained on the objective test and school grades than between school grades and the essay test.

At St. Louis University, a still higher correlation was obtained between the Professional Examination Service test scores and academic grades—viz., .71. When correlations were obtained between scores on the various sub-tests and comparable course grades, the superiority of the objective test over the essay test, in terms of this criterion, was again demonstrated.

For the future, the Professional Examination Service hopes to be able to draw more and more board members into active participation in the many phases of the construction of these tests. We hope that you may be persuaded to assist in writing and reviewing questions, and that you will feel that it is to the advantage of medical licensing for you to do so. We hope that, in the long run, you will put increased confidence in this type of test and that objective testing may, therefore, make a contribution to the solution of the problems of reciprocity.

The Professional Examination Service is especially glad of this opportunity to express its appreciation to the Missouri, Oregon and Wyoming boards for their willingness to pioneer in the use of this test. It was well aware of the responsibility that it assumed in urging the use of this test. We are glad for the sake of the boards, the candidates and our own that the confidence of the boards was justified.

Finally, on behalf of the Professional Examination Service, I should like to thank this organization for having twice given audience to a consideration of objective testing. Had it not been for the willingness of the Federation of State Medical Boards to allow a small group of enthusiasts to present its case two years ago, these reports that you have heard, and the experiences on which they were based, would not have taken place. We, for our part, are glad that they did.

John P. Hubbard, M.D., Philadelphia: For the past two or three years, the National Board of Medical Examiners has been looking very closely at much the same questions that have been reviewed. As we have reported to you in earlier meetings, we have gained a feeling of confidence in the value

of this objective multiple-choice type of examination. We, too, have made various correlation studies with the performance of medical students in their own schools and we, too, have obtained evidence that the objective, multiple-choice type of examination appears to stand up better in comparison with school performance than the time honored essay examination.

We have now prepared examinations of the objective multiple-choice type in all subjects which customarily are used in the National Board examinations. These have not all been given yet. We still feel that we are in the experimental phase of this development. We do not anticipate using these more newly developed tests this year.

I think it should be made clear that we are not using exactly the same examination that has been described here. You have been hearing of the examination prepared by the Professional Examination Service of the American Public Health Association. The examinations of the National Board have been prepared by test committees of the National Board in cooperation with the Educational Testing Service of Princeton, New Jersey, a completely different organization.

The National Board has rather obviously felt it most important to maintain the development and content of our examination in our own hands. Therefore, we have 11 test committees for the 11 subjects of the National Board examinations of Part I and II. These test committees are made up of prominent department heads, leaders in the respective fields, chosen throughout the United States with considerable geographic distribution so that we have a representative group working on the tests.

These test committees put in a great deal of work. A number of you have worked on these test committees and it is certainly a laborious procedure to prepare valid examinations of this type. The individual questions have to be developed with the greatest care. They are subjected not only to criticisms by those who are familiar with the subject matter but also to review by the experts skilled in the techniques of this type of examination. We have, therefore, prepared our examinations under the direct responsibility of the National Board itself with the aid of the Educational Testing Service, drawing on their experience in this broad field, and drawing on their help in analysis of this material.

I might also report that as of recent date, we have received a continuing grant from the John and Mary R. Markle Foundation in order to assist in the more detailed analysis of the results of our examination. In this further study we will undertake for those schools that use our examination for all their students, of which there are now some 16 or 17, an analysis of the results of these examinations in specific detail within each subject, so that we will be able to tell one school, for example, that its students are doing well, shall we say, in the field of endocrinology, or to be able to tell another school that it is apparently not doing so well in that particular field, as judged by the results of these examinations.

One more point. When we speak of the objective multiple-choice examination, we are speaking of a wide variety of techniques and types of examinations. There is the 1-out-of-5 choice, which is essentially what you have been hearing today, and there are other more complicated types which are now being introduced into our examination in order to obtain not only some measure of the knowledge of the individual student, but also a measure of his ability to apply that knowledge to the situation in hand, to think and to judge the question. By the use of the variety of these techniques, we will be able to get some measure of that essential quality of the student's ability to think and to apply critical judgment to the problem before him.

Elmer W. Schnoor, M.D., Grand Rapids: Can anyone give us an idea of what the cost of this service might be?

Dr. H'Doubler: Our cost is \$10.00 a head. The cost by the old method was little over \$5.00. The impartiality of the new method, its fairness, the freedom from discrimination, and the lack of fatigue in correcting papers makes up for the difference. Missouri has renewed its contract with the Professional Examination Service because we are satisfied with it. We tell examinees not to leave a question with a blank answer as this counts just as wrong as does choosing a wrong answer.

If a student cannot answer a question, he should select at random one of the answers on the chance that it might be correct. If it is incorrect, it counts no more against the student than does leaving the answer blank. The National Board gives examinations to students from all the different schools so they would not have the chance to make the correlations such as we have made in St. Louis. The I.B.M. will do our scoring and give us more time to spend on giving better examinations.

Question: Does it shorten the time of your examination? Do you give the same time to multiple choice as you do to the essay type?

John A. Hailey, Jefferson City, Mo.: For the multiple-choice type examination we use two days. Two and a half days were devoted to the essay type of examination.

Dr. H'Doubler: I do think it should be the concern of everybody on the examining board to acquaint himself with multiple-choice examinations. I certainly agree with the preceding discussant that we should keep in touch with the people who are furnishing these examinations. As was explained by Dr. Long, the Professional Examination Service has an expert staff and they are going over the questions all the time to make the examination better and better. They welcome suggestions from us. I think that should be our concern. The I.B.M. can do so much better than we can in marking papers that we ought to take the tremendous amount of time so saved to help devise better examinations.

Question: Is the \$10.00 fee for each subject? How many subjects are involved? What was your percentage of failures?

Dr. H'Doubler: The \$10.00 fee is for the whole examination. Twenty subjects are involved. We had no failures. We did not want to start out with a set plan of a certain number of failures. To compensate for this attitude we screened extra carefully those being allowed to take the test. In this way we ran no danger of licensing incompetents and at the same time we got our new method in gear, acquired experience and data and are now orientated and ready to operate without so rigid a preliminary screening and are in a position to cull out at the examination level. Incidentally, we are not bothered with many failures. Most of our examinees are from Washington University and St. Louis University. They come well prepared from these excellent schools, and as the speaker before me said, graduates of such schools perhaps should not have to take the state board examinations. The casual examinees from other schools are carefully screened.

J. Earl McIntyre, M.D., Lansing, Mich.: How many foreign graduates were examined by this method?

Dr. H'Doubler: There were six or eight. All had already acquired citizenship and had at least a year's internship in the United States. The foreign graduates allowed to take our first multiple-choice examination were extremely carefully screened. All those who took the examination passed. Remember that the screening was very strict before they were allowed to take the examination. We have great sympathy for displaced people. We do all we can for them but we must remain strict as to qualifications and standards and not end up by making it easier for displaced people to practice medicine in the United States than it is for our own people.

Robert Moore, M.D., St. Louis, Mo.: You may be interested in my experience while acting as the chief examiner in pathology for the National Board of Medical Examiners on the correlation between school grades and the two types of examinations.

In the summer of 1951, it became apparent that we were going to use the objective examination the following year. I undertook to grade 1,000 papers of the National Board examination in order to get an accurate correlation on the essay examination against the school grades. The criteria was accurately set, and I consulted with seven other professors in the country concerning these criteria, so that I had not only my own opinion concerning what was a passing answer but the opinion of others. Correlation coefficients were worked out with seven schools in the United States where there were more than 80 candidates taking the National Board. I wrote to professors in each school, and got the grade in pathology

which was based not only upon examination but on the opinion of the man, how he behaved in the laboratory and so forth, and there were significant correlations between the essay examination given by the National Board and the grades in each one of these schools, both individually and collectively.

Then in June of 1952, we got the scores from the objective examination and repeated this process of writing to the same seven schools, figuring correlation coefficients, and there was an improvement in the correlation between the objective examination and the school grade in every instance so that we think in the subject of pathology, and this has been done by the National Board for other subjects as well, we have statistical evidence that the objective examination as it has been administered is an improvement over the essay examination in terms of correlating with a grade that has been based on many other things than just an examination itself. This examination is a fair test of a man's knowledge of the subject.

Dr. Foster: I do not think we should drop the essay examination entirely. We tried a scheme of comparing the number of questions that were given to us and the number of possible questions involved in the essay examination. There were about 600 questions in the objective examination. In the essay examination there were a total of 110 questions, but those 110 questions probably required a tremendously greater knowledge on the part of the student than would be required for the multiple-choice examination. You cannot go on numbers but on results and there is a very close parallelism between the two types.

PRACTICAL EXAMINATION: EXPERIENCE WITH LARGE NUMBERS OF APPLICANTS

Josiah J. Moore, M.D., Chicago, Ill.

The practical examination was first conducted by the Medical Examining Committee of the Illinois Department of Registration and Education in March 1918. I quote from an article by Mr. Francis W. Shepardson, Director of the Department, at that time:

"In the March examination a new feature was introduced in the form of a practical test, consisting of one hour with patients in eye, ear, nose and throat; one hour with surgical patients; one hour with diagnosis and medical patients; and one hour in the laboratory, identifying slides. Through the courtesy of the officials of the Cook County Hospital, the facilities of that great institution were placed at the disposal of the department. Both examiners and examined entered into the spirit of the new arrangement with hearty interest.

"The results of the experiment were so gratifying that it was decided to make this a permanent feature of the examination plan. In the June examination the same method was followed, with an unusually large class of candidates, the results again being satisfactory in every way.

"It has also been determined that no license by reciprocity shall issue hereafter, except after the presence of the candidate before the examination committee and the passing of a satisfactory practical test."

That was in 1918. We have conducted the examination ever since. Several years ago, the practical examination was discontinued for recent graduates, but is now given to all reciprocity groups of the various states, to diplomates of the National Board of Medical Examiners and

Member, Medical Examining Committee, Illinois Department of Registration and Education.

to those presenting credentials from the Army, Navy, Air Force and the Public Health Service. We are continuing to use the facilities of the Cook County Hospital. It would be impossible to conduct such an examination without having a large charity hospital at our disposal.

During the last examination 144 physicians were tested. It would be unfair to have a patient examined by more than one candidate in a half day in medicine and surgery. We, therefore, require many patients for the examination.

The examination is conducted in the following manner. Approximately 50 candidates are examined each half day and divided into groups of ten or twelve. They then are rotated through the four subjects—medicine, surgery, eye, ear, nose and throat, and laboratory diagnosis. Candidates are instructed to bring their head mirrors, stethoscopes and any other material they would want to use in making a physical examination.

When the candidate comes before the examiner, he is given a numbered book, and henceforth is known by number only. Then the candidate is assigned a bed. The cases have been worked up beforehand by the surgical residents or medical residents, and they have selected the most favorable patients for examination by these candidates.

As the candidate's number is called, he is given the number of the bed of the patient he is to examine. He is given 30 minutes for the examination proper. He makes the usual examination. He is told that he cannot have the record of the patient, but he can have the x-rays and also the laboratory findings. After making his examination he is given the history. He is instructed to write the history just as he would if he were going to take a patient in his office or hospital. Then he writes his diagnosis and the differential diagnosis if he has time. He is given 50 minutes for the entire project.

The types of cases that are presented in the medical group are those fairly easy to diagnose, such as pneumonia, various types of heart disease, peptic ulcer, nephritis and hepatitis. In the case of a pulmonary infarct, they must interpret the different sounds.

The same procedure is followed in surgery. The cases presented include vascular lesions, gall bladder, gastrointestinal lesions, hemorrhoidectomies, fractures and similar types of cases.

The same access to the laboratory and the x-ray findings is permitted in surgery. Here again, at the end of 50 minutes the paper is turned in.

Each test covers about six written pages. The examiner tries to see how the candidates handle each patient, but that is sometimes difficult because he is occupied with the x-rays and laboratory records.

There is no time for oral examination.

In eye, ear, nose and throat, the candidates are given examination blanks upon which they write the diagnosis of the lesions they find in one throat, one nose, one ear, and appearances of three eyes. The lesions of the ear may be such as cerumen, perforated septum, perforated ear drum, and otitis media. The nose may have polyps, deviated septum, carcinoma, and rhinitis. Throats examined usually show tonsillitis, carcinoma of the tongue and pharyngitis. Eyes examined have cataracts, trauma, various conjunctiva and various lesions. They do not use

the ophthalmoscope. They are just permitted to lift the lids. In the eye, ear, nose and throat section of the examination, candidates are not permitted to talk to the patient, but are supposed to make their diagnoses from what they see.

In the laboratory diagnoses, they have five x-ray films and five gross pathological specimens. The x-ray section consists of fractures, pulmonary lesions, pleural effusion, heart conditions, aneurysms, gall stones, kidney stones, bone fractures, gastrointestinal pathology. In pathology, they are given five specimens and are told to write down the name of the organ and the lesion in each case. They are given three minutes for each examination. We do not use slides.

The number of failures among the American graduates is much lower than that among the foreign graduates. The failures of American graduates is about 2% and about 12% among the foreign graduates. In our last examination in laboratory diagnosis, 140 took the practical examination. Of the 42 reciprocal examinees, 7% failed, the grades varying from 70 to 100%. Among the 98 foreign graduates, 35% failed, and their grades varied from 48 to 100%. When the four subjects are correlated, most generally every American graduate will pass. About 15% of the foreign graduates fail the entire examination.

I feel that this examination is worthwhile. Reciprocal examinees usually refresh themselves before taking the examination. The examination is comparable to the practical examination of the National Board of Medical Examiners and the American boards in the specialties. It is closer to the goal for which we are training physicians than other types of examination. It is the type of examination which covers material that you are going to use throughout your medical career rather than something that is forgotten half an hour after the examination. Any physician of any age can take this examination on an equal basis with a young intern, resident or recent graduate.

EXPERIENCES WITH TEMPORARY LICENSES

S. M. Poindexter, M.D., Boise, Idaho

Temporary licenses were authorized in the Medical Practice Act which was passed by the Idaho Legislature and approved by the Governor on February 3, 1949. The Law became effective on July 1, 1949. In our opinion it has been successful.

Before discussing the provisions for granting temporary licenses, I would like to direct your attention to the background which led to the enactment of our present law and to show why a provision for temporary licenses was imperative.

It had been thirty years since any major change had been made in Idaho Statutes dealing with the practice of medicine and surgery. Idaho has never had a composite board. In 1919 the former Board of Medical Examiners was abolished and its duties were placed in the Department of Law Enforcement. In this department an Occupational License Bureau was created to deal with licensing and with enforcement of all branches of the

Chairman, Idaho State Board of Medicine.

healing arts and with all recognized professions and trades. Gradually the bureau became over-crowded and understaffed. The law gave little or no control to the medical profession in determining policy or in the enforcement of regulations. The Governor was not required to consult the State Medical Association on the appointments to the "Medical Examining Committee."

On October 5, 1937, the "Medical Examining Committee" deemed it unsafe to continue reciprocity agreements with the several states. After that date a written examination was required of all candidates desiring an Idaho license, except Diplomates of the National Board of Medical Examiners, provided they had been certified by that board within a period of five years prior to applying in Idaho.

For the past ten years I have been a member of a licensing agency for medicine and surgery in Idaho. During the first six years I was a member of the old "Medical Examining Committee," and for the past four years I have been Chairman of the new State Board of Medicine.

The State Board of Medicine is an independent agency in the Department of Law Enforcement. Idaho has a modern, effective law. The authority is vested in the board which is appointed by the Governor solely upon the recommendation of the State Medical Association. During the first six years of my experience on the old "Medical Examining Committee," we were constantly confronted with the problem of granting licenses between regular meetings of the "Committee." This was during the war years when an acute physician shortage existed. Many communities were without medical care. Many established physicians were seeking new associates to replace those called into the armed forces. Following the war we were faced with the same problem. The old law contained no safe provision to grant licenses without written examination, either permanent or temporary. These provisions are a vital part of our law.

The members of the Federation must realize that Idaho is a rural state. It has a small population with the largest city, Boise, being 35,000. It does not have a medical school or hospitals approved for internships or residencies. It is our experience that the majority of physicians obtain their first license to practice in the state where their medical school is located or their internship is served. When these men and women decide to locate in Idaho, they are well qualified but not licensed. We feel we should accept previous written licensure examinations as we accept approved medical schools or internships. The Idaho Board accepts for licensure only graduates of approved medical schools of the United States and Canada, and we require an approved internship. Many of our applicants are former residents of the state. The Medical Practice Act of 1949 authorized the State Board of Medicine to grant permanent licenses without written examination, and to issue temporary licenses between meetings of the board, so as to remedy the physician shortage and lack of medical care.

Undoubtedly, there must be other areas with a similar problem. In a current report of the Council on Medical Education and Hospitals of the American Medical Association, I find there are sixteen states and three territories listed as being without medical schools. There are only

four states and one territory without approved internships and residencies. Probably the licensing agencies of these several states and this territory find that most of their applicants for licensure have been previously licensed by written examination in another state or territory or that they are Diplomates of the National Board of Medical Examiners. These states and this territory are probably confronted with a demand for immediate licensure in order to relieve physician shortage. Then, too, many of these men may be former residents of these states or this territory. We have state hospitals and institutions that must be adequately staffed. I feel certain that Idaho is not alone in this problem. However, our problem differs from the more populous states that have medical schools and hospitals which offer internships.

Briefly, I will discuss the provisions for granting temporary licenses for the practice of medicine and surgery. The granting of a temporary license is based on an extension of the provision for granting permanent licenses without a written examination. These licenses are granted by endorsement of a written examination from another state or territory or by endorsement of the examination of the National Board of Medical Examiners. The applicants must have passed a written examination that is equivalent to that given by our board. We accept the written examination of any state or territory regardless of whether that state or territory accepts our examination. We require that no grade be below 60% and that the average be 70%.

Idaho does not have reciprocal agreements with the states or territories. Each candidate must first meet the general qualifications of preprofessional education, medical education, internship and moral and professional character before licensure can be considered. Proper letters of recommendation are required. Applicants must hold a valid, unsuspended, unrevoked license to practice medicine and surgery in some state or territory, except Diplomates of the National Board of Medical Examiners, who are not required to be licensed in another state or territory. An applicant must not have been guilty of conduct of a criminal, immoral, dishonorable or unprofessional character. He must not have been convicted of a felony in a state or federal court. He must not have violated any of the provisions of our Medical Practice Act or that of another state or territory including grounds for suspension or revocation of license. The applicant is cleared through the Council on Medical Education and Hospitals of the American Medical Association and also through the state or territory issuing the previous license and through the states or territories where the candidate has practiced.

A candidate files a completed application and other required credentials with the Board, including a fee of \$100, and requests licensure without written examination. A certified copy of the individual grades and average is obtained from the licensing agency of the state or territory where the candidate is licensed or from the National Board of Medical Examiners. The law requires that the candidate submit his original diploma, and he must appear in person at the Executive Office.

This step completed, the Executive Office reviews the credentials, and if found in order, the applicant is notified

that he may appear before the Board at its next regular meeting to be considered for licensure without written examination.

Should the applicant for licensure without written examination apply in the interval between meetings of the board, he may request a temporary license. The law authorizes the Chairman of the board to interview the candidate and to grant a temporary license in the interval before the next regular meeting of the board, if in his opinion the applicant possesses qualifications for a permanent license. In addition to the fee of \$100 for licensure without written examination, the fee for a temporary license is \$5.

Incidentally, the fee for licensure by written examination is \$25. Our annual registration is \$10.

When an applicant is granted a temporary license he possesses all the rights and privileges of one holding a permanent license including narcotic registration, malpractice insurance and hospital appointments. The temporary license is good for a maximum of six months or until the next regular meeting of the board. He must appear before the board for a permanent license within one year, otherwise a new application must be submitted. If he fails to appear before the board at its next regular meeting, a temporary license cannot be renewed. Should he fail to appear or to receive a permanent license, the fee of \$105 cannot be refunded. A candidate who has failed in a written examination in our state or any state or territory is not eligible for a temporary or permanent license without written examination. All temporary licenses must be surrendered to the board at the time of issuance of a permanent license or ten days after the expiration date.

While the board recognizes and accepts graduates of the approved Canadian medical schools and accepts approved internships and residencies of Canada, the law does not provide for licenses without written examination for these applicants, unless they have been licensed in some state or territory by written examination or unless they are Diplomates of the National Board of Medical Examiners.

To date the State Board of Medicine has had more than three and one-half years of experience in granting temporary licenses. It has granted a total of one hundred temporary licenses. At the present time three physicians hold temporary licenses granted since the last meeting of the board, January 12-14, 1953. The number of permanent licenses granted without written examination is 169. During the same period 19 licenses by written examination were granted. About 57% of those receiving a permanent license without written examination held temporary licenses before they were made permanent. The number of licensed by written examination represents only 10% of the total licenses granted in this period. Only five temporary licenses did not become permanent, due to the candidates' failure to appear before the board at the next regular meeting or within the specified time of one year. Under these circumstances candidates forfeit their fees of \$105, and should they later seek a license without written examination they must submit new applications and credentials and pay additional fees of \$100 plus \$5 for a temporary license.

In no instance has a temporary license been issued in which the board failed to approve the decision of the Chairman.

The 100 temporary licenses represented previous licensure in the following states: Arizona, 1, California 16, Colorado 4, Illinois 4, Indiana 1, Iowa 5, Kansas 4, Kentucky 1, Maryland 2, Michigan 2, Minnesota 3, Missouri 4, Nebraska 6, New Jersey 1, New York 2, Ohio 1, Oklahoma 1, Oregon 3, Pennsylvania 2, South Dakota 1, Tennessee 1, Texas 2, Utah 11, Vermont 1, Virginia 1, and Wisconsin 1. There have been 19 Diplomates of the National Board of Medical Examiners.

The procedure for granting temporary licenses to applicants qualified for permanent licensure without written examination has been successful. We have not found any flaws in the law or regulations. We have had two instances where men were granted temporary licenses but failed to locate in the state. One of these asked for a refund, but it was refused. He was urged to appear before the board and receive a Permanent License, and this he did. One applicant practiced in the state for the duration of the temporary license and then decided to leave. He asked for a refund but appeared before the board and received a permanent license. One physician holding a temporary license was unable to appear before the board because of induction into the armed forces. No refund can be made, but the board can later consider his case for permanent license on its merit. One woman physician was unable to appear for a permanent license because of residency outside the state complicated by temporary physical disability.

We have had no "Fly by Nights." No physician will plan a vacation in Idaho and practice on the side when he must meet the requirements of our law. We shall continue to issue temporary licenses for the practice of medicine and surgery on this basis. I recommend this procedure to any state or territory that may have a problem similar to Idaho.

DISCUSSION

Edwin L. Crosby, M.D., Chicago: First of all, I should admit that my qualifications and experience in this field are rather slight. My qualifications include the fact that, first of all, I have just become an honorary member of the Idaho State Hospital Association. I think that Dr. Bierring felt that in my new position as Director of the Joint Commission on the Accreditation of Hospitals, since we are concerned primarily with the quality of medical care which is provided in the hospitals which we accredit, we are therefore interested in the medical staff and the licensure and qualifications of the medical staffs of the individual hospitals.

I think the single comment which I might make is that it seems to me in all states but, in particular, those states which have problems similar to those of Idaho, temporary licensure would be very helpful in increasing the manpower or the number of physicians available.

There is an increasing need for some provision for temporary licenses for residents and members of the house staffs of hospitals. This is particularly true at present since there have been two recent court decisions in which the hospital has been held solely responsible for the acts of its resident staffs who were allowed to practice medicine in those hospitals, in spite of the fact that they were not licensed to practice medicine by the state. Those two states are Minnesota and North Carolina. In view of the fact that so many members of the resident staff and house staff of hospitals are not residents of the state in which they are taking their training, there is a need for providing some sort of temporary licensure

for these men in order to take care of the responsibility of the hospital, and also of the responsibility of the various residents.

Charles A. Doan, M.D., Columbus, Ohio: As chairman of the newly established Commission on Licensure Problems for the Association of American Medical Colleges, I may say that during the past year we have been listening to and discussing many questions raised by the deans and those associated with teaching institutions with reference to current state medical licensure procedures. One of the main problems that has come before our committee, now a joint committee with the Federation, has been this question of the special or limited licensing of physicians by the respective states.

I have been interested, therefore, in Dr. Poindexter's presentation. His manuscript emphasizes the value, in states with large rural populations particularly, of temporary licensing laws for the prompt securing of badly needed medical practitioners, sometimes in an emergency.

I want to emphasize also, what Dr. Crosby has just said, relative to the advantage of temporary licensing for young postgraduate physicians who desire to continue their training in teaching hospitals in states other than the one selected for permanent practice.

It is possible legally to have the intern responsible to the chief of his hospital service so that a state license is not essential for strictly hospital work under an approved licensee. Many of the schools now require an extra fifth year of internship before they may even qualify for the state licensing examinations although we believe the intern would be better served if he were to have at least a temporary license during his intern year.

Starting with the assistant residency, and sometimes going two, three, four or five years in postgraduate training, it is a legal requirement in Ohio that all such hospital residents have an Ohio state license. Many of these men come from other states, with the intention of returning to still other states to practice and much prefer not to be forced to secure a permanent Ohio license. There is also the question of the Canadian and other non-American medical school graduates who seek temporary postgraduate training in institutions in this country. If there were some method for the individual state medical boards to issue to these graduate medical trainees temporary or special, limited licenses defining the time, place and character of postgraduate education being approved and requiring the return or renewal and extension of such certificates at a specified date, it should be possible to know the location of all such trainees who then could obtain liability insurance and potential malpractice suits would be covered. I noted that the law cited by Dr. Poindexter specified that within ten days of the time of expiration of the limited license, it must be returned to the board originally issuing the license. A period of limited or temporary licensure might well precede the issuance of a permanent license in some instances where further first hand evidence of practical ability seems desirable before accepting the available credentials of a candidate from another state or country.

Some such liberalizing of the state licensing function could conceivably be administered in the best interest of medical practice in general. It would give a better and fairer control of the present situation and would provide those limitations, along with privileges, which some states now provide, but which are definitely illegal in many states, and are certainly only permissible in other states through the leniency of the boards involved.

This problem is of definite concern to the member schools of the Association of American Medical Colleges, and we are hoping that some general recommendations may come to and thence from our joint committee with reference to it. We shall certainly welcome constructive suggestions either pro or con with reference to this important matter. It is a subject we shall be considering during the coming year. It is of vital importance to increasingly large number of physicians and certainly to the states through their boards in order that a better and more uniform procedure be approved.

Joseph J. Combs, M.D., Raleigh, N. Car.: The present board in North Carolina requires that a physician shall be

licensed to practice medicine after one year of internship. We grant limited licenses for practice in a teaching institution. We are attempting to have this changed to a special resident license limited to an institution.

Dr. Crosby: The resident is liable, whether he has a license or not, but the hospital is doubly liable when the resident does not have a license.

Frank H. Fowler, M.D., Chicago: This problem was brought up in Illinois in 1950 and we omitted the medical practice side to substitute regular licenses only for physicians serving in residencies in the state who do not intend to practice in Illinois. All residents in Illinois must have a license to practice medicine but there are a number of physicians who come to Illinois for postgraduate training only. We grant them temporary licenses. We also grant limited licenses to physicians from other states or other countries for practice in our state institutions.

J. J. Moore, M.D., Chicago: An inspector from the Illinois Department of Registration and Education has said she could hardly name a hospital in Chicago that did not have an unlicensed resident. We should put the pressure on our hospital superintendents to see that their residents are all licensed.

A NEW MEDICAL PRACTICE ACT

Bruce Underwood, M.D., Louisville, Ky.

The Kentucky Medical Practice Act was adopted in 1904 and has not been changed for 44 years. During that time there have been many changes in our medical licensure procedures and practices and it was evident that the law should be revised. For example, the law did not specifically provide for reciprocity and endorsement although licenses by both of these methods were being issued. The law was rather loosely drawn and capable of many interpretations. Perhaps its greatest weakness was in the provisions for its enforcement. The State Medical Board was the judge, the jury and the prosecutor. There was insufficient protection of the property rights of the individual being prosecuted. The decisions of the board were appealed to the Governor rather than to the courts. From a judicial point of view it was weak. This is exemplified by the fact that there are still pending after more than three years of litigation two cases which should have been disposed of promptly. One was an individual who was giving the Koch Cancer treatment to individuals suffering from cancer and tuberculosis for which he received a fee of anywhere from \$150.00 to \$300.00. It was realized that situations like this should not be tolerated and yet the dangers involved in presenting any law to a legislature were apparent. The board considered the possibility of a conflict between the doctors of medicine and the doctors of osteopathy. The board considered the nurse anesthetists, x-ray technicians, physiotherapists, and chiropodists, all of whom were licensed under the State Board of Health through the use of assistant boards of examiners in these fields. The board realized that chiropractors, Christian Science practitioners, dentists, pharmacists, nurses, the medical school, and others might fight a new act if it did not read right insofar as they were concerned. It thought of foreign graduates, limited licenses, rural areas and other problems, both real and potential, and yet it was necessary to revise the Medical Practice Act. It was a calculated risk. It was

Secretary, Kentucky State Board of Health.

difficult to understand the point of view of the lawyers. They had to learn a great deal about medicine, and the board had to learn quite a bit of law before much progress could be made. The Constitution guarantees that a man shall not be deprived of his property rights without due process of law. A man is innocent until proved guilty. A law must be examined from the standpoint of the accused as well as the accuser. The board and the lawyers have long since come to have a healthy respect for each other. The board was informed it could not revise the Medical Practice Act but that a new act should be written. The board was advised to write each state in the Union for a copy of their respective acts and that five or six months would be required to analyze these acts. They wanted to ascertain what other Kentucky laws were involved and which would need to be considered.

The need for the new Medical Practice Act was perfectly evident to all who knew the facts. However, it took time to get the facts to all concerned. It was a difficult job to get the physicians informed. Even then much diplomacy and tact was required. The board unsuccessfully considered the idea of an annual registration feature. It will come in time but it will have to be preceded by an educational program.

The new Act was to include only doctors of medicine and doctors of osteopathy. This meant that all other groups which had previously been licensed in Kentucky would either no longer be licensed or would have to set up their own separate examining boards. The chiropractors wanted to handle their own affairs, and the board wanted them to do so. However, when they were informed they would be excluded, they decided otherwise. The final arrangements were that I would be the Secretary of their new and separate board for chiropody but that the new board would no longer be under the State Board of Health. Licensure of physiotherapists, x-ray technicians, nurse anesthetists, and nurse midwives was discontinued. This involved some conferences and explanations. The board assured the Christian Science practitioners they would not be adversely affected. It was necessary to consult with the pharmacists, dentists, nurses and others to be sure the new act would not infringe unduly on their rights. It was realized that the chiropractors would review it carefully for infringements. This left the doctors of osteopathy. After numerous conferences, agreement was reached that in the act the practice of medicine and the practice of osteopathy would be identically defined. The doctors of medicine insisted on the issuance of separate licenses, one for the practice of osteopathy and another for the practice of medicine, even though by definition medicine and osteopathy were defined to be the same thing. The position was taken that as long as the doctors of osteopathy received their degree in osteopathy from schools of osteopathy, they should be given a license to practice osteopathy and not a license to practice medicine. This procedure was agreed to by both the Kentucky State Medical Association and the Kentucky State Osteopathic Association.

The next step was to explain the legislation to the Governor and to the legislators. To complicate the situation the chiropractors were fighting a Hospital Licensure Law already introduced and the board felt they would

not hesitate to fight the Medical Practice Act in an effort to prevent the passage of the Hospital Licensure Law, even though there was nothing in the new Medical Practice Act to bother them. Firms such as Watkins Products who sell drugs in the home found a clause in the new Medical Practice Act which affected them and this had to be corrected to avoid their rather considerable opposition.

Finally, all legislation was passed but it was not without some anxiety, work, friends and the power of right and fair play on our side. But was this the end? Regulations must now be adopted to implement the act. The new principles of administrative law must be followed. Proper procedures for the filing of regulations must be observed. Proper hearings must be held prior to the adoption of the regulations. The board agrees with all these procedures and understand their necessity. One of the things that had to be done was to adopt a Code of Professional Conduct. This had to be done within 120 days and this time was all too short. The board prepared a ten-point Code but after a hearing ended up with a three-point Code. The idea of the Code is good. Medical societies can go only so far in disciplining their members. The most they can do is to expel them from the society. After that, the unethical physician can go right on in his unethical practices. By use of the Code of Professional Conduct, the medical and osteopathic professions of Kentucky can now discipline their members by law if they so desire since violations of the Code may result in the suspension or revocation of the license to practice medicine or osteopathy. The code adopted thus far makes it illegal to

1. Advertise in an unprofessional manner.
2. To use secret remedies.
3. To engage in the corporate practice of medicine.

This latter provision is very important. The board can now revoke the license of a physician who practices corporate medicine. The board can add to the code any other principle of professional ethics which the profession desires to add and can eliminate or change the code as desired. Thus there is a method for controlling unprofessional conduct. It was necessary to prepare regulations to list every medical school which was to be approved, every hospital approved for internship, to appoint hearing officers, to set up hearing procedures, to set fees, and a host of other items.

One strong feature of the new act is the provision for the appointment of hearing officers who can hear all the evidence and take a transcript of it. The board members thus avoid time consuming periods when the lawyers are objecting and the objections are being saved. The hearing officer does not have the power to revoke licenses. The board itself acts on the record as provided in the transcript. Oral pleadings can be made before the hearing officer and/or the board. The board members do not have to be present in person for all the hearings which would usually require several days each month. Kentucky does not have reciprocity with any state but does have endorsement with all states. All regulations have not yet been compiled. The board at present is wrestling with the problem of regulations insofar as the foreign graduate, the limited license man, and the resident are concerned.

But the story does not end here. It is now apparent that the new Medical Practice Act needs some revision and while there are not many, it appears we must go through some of the process again in the next session of the Legislature.

While the board has had the problems and difficulties mentioned, and many others, it is believed the net result is good. The one thing above all others the board has come to the conclusion that there is a need for a model or uniform medical licensure act. There are uniform acts in other fields. They do not violate state's rights because they are only suggested guides to follow. The Uniform Narcotic Act is an example. Why should it be necessary to write every state for a copy of their medical practice laws and study and analyze all of them? Why should there be so much lack of uniformity in medical licensure matters between states? Why cannot identical forms be used and the practices to be followed be made uniform insofar as they are consistent with the varying factors and conditions in the several states? Certainly different states may desire to impose their own requirements as to residence, citizenship, reciprocity, and such other matters of local concern, but is that any reason for the lack of a model or uniform medical licensure act to assist those states who desire it? In the course of time, there would be a greater degree of uniformity without sacrificing any state's rights to any national group. Such uniformity would permit more efficient licensure and would obviate much of the confusion and difficulty that now exists.

The job of writing a new medical practice act is not easy but must be done at times for we must be ever vigilant to protect the health of the people we serve. Medicine today more than ever before should have medical practice laws which will permit medicine to clean its house, to keep it clean, and to protect the public to the limit of its ability. A uniform medical practice act is an urgent need which should be met.

Our physicians like the new medical practice act. Health and medical care matters in Kentucky are well coordinated and completely free of any partisan political interference. The board members are appointed by the Governor upon nomination by the Council of the Kentucky State Medical Association. The commissioner of health and head of the state department of health is appointed by the board and not by the governor.

The same individual among other things is:

1. The Secretary of the State Board of Health which is also medical licensing board.
2. The Commissioner of Health for the state.

3. The Secretary and General Manager of the Kentucky State Medical Association, and

4. The Editor of the Journal of the Kentucky State Medical Association.

Under this arrangement the medical profession can and does provide leadership for all phases of health and medical care.

I have pointed out some dangers to be considered in approaching a legislature and some of the difficulties involved. I have urged the writing of a uniform medical licensure act to aid and assist the states who may wish to revise or rewrite their medical practice acts. I have described the highlights of our act such as the provision for a code of professional conduct and the use of hearing officers.

I would like to pay tribute to Mr. J. W. Holloway of the American Medical Association, and his associate, Mr. George Hall, and to Mr. Milton McKay of the American Osteopathic Association for their excellent legal assistance and to each of the states for making available to us copies of their Medical Practice Act. Many other persons assisted in drafting the Act, but special credit is given to Mr. Martin R. Glenn, special counsel for the Kentucky State Board of Health. He is a member of Wyatt, Grafton & Grafton, a leading law firm in Louisville, and an outstanding lawyer. It was he who outlined the importance of following proper principles of administrative law. The board is deeply indebted to him.

Copies of our new act will soon be sent to each medical licensing board and will be sent to anyone else who may request it. There is much in it which is self-explanatory but in places it will be difficult to understand unless one has a knowledge of how it works.

DISCUSSION

Creighton Barker, M.D., New Haven, Conn.: Who approves medical schools that are eligible for licenses in your state?

Dr. Underwood: We accept the list of medical schools approved by the Council on Medical Education and Hospitals of the American Medical Association, but every school must be listed separately in our regulations. The board makes its own interpretation regarding the approval of medical schools and we accept the Council's list. We have the right to add to the list if we so choose.

J. Earl McIntyre, M.D., Lansing, Mich.: In Michigan we were challenged by a graduate for accepting the classification of the Council on Medical Education and Hospitals without the board's investigating or making its own individual approval. The case went to the Supreme Court of Michigan in 1935. The Supreme Court decided that the state board must make the final approval of all medical schools and teaching hospitals whose credits would be acceptable.

TUESDAY NOON SESSION, FEBRUARY 10, 1953

Walter E. Vest, M.D., Presiding

MEDICAL QUACKS IN CHICAGO

Norma Lee Browning, Chicago, Ill.

I have been invited to speak to you on medical quacks in Chicago and the series of articles which were published in the *Chicago Tribune*. I do not know whether you are more interested in my personal experiences with the doc-

tors, my conclusions, the results of the series, or how I feel about the medical profession as a whole. I am, therefore, going to combine a little of all of them in my presentation for your interest and amusement.

I won the *Tribune's* \$500 Beck Memorial Award for the series of articles. I have the suspicion that the award was given to me not so much for my editorial skill but as a citation for bravery or courage. The truth is I did not

deserve it for either bravery or courage. Instead of being frightened to death, as everyone assumed I should be, I never had so much fun on an assignment.

When I was given the assignment, I was apprehensive of one thing—it was not the quacks. I did not think I could be a good actress. I thought the quacks would probably get suspicious that I was an investigator or reporter and that I would not get my story. However, after the first two or three visits to some of these pseudo doctors as a patient, I found that they would believe anything, without much questioning. My stories got better and better as I went along, and pretty soon I was having the time of my life describing fictitious family histories and putting on whatever kind of act was called for at the moment. I got in quite a few tight spots but I usually managed to allay suspicion.

One of the quacks I visited was a naturopath on the west side. It was a poor neighborhood so I dressed the part, wore shabby clothes and a babushka. However, I made the mistake of telling the doctor's wife, who was also in business with him, that I was living on the near north side with my sister, and that her name was Taylor, and that she had been treated by the doctor. The woman was a little suspicious. Not finding a patient by that name in the files, she started asking me questions. I was at a loss to reply to her questions so I put on the indignant act. I acted as if I were about to leave. She then became real interested and informed me she was sure I was sick and needed a treatment. I was sent to a booth, told to undress and to lie down on a couch. I was wrapped in several layers of sheets and blankets with my arms pinned down flat—all I could move was my head. She turned on a heating apparatus and left me. Then the doctor came in and sat down beside me. It was real cozy. When he started telling me what nice eyes I had, I screamed "Let me out of this place." His wife heard it clear down the hall and came running into my booth, at which point the doctor obligingly left. He suggested I see a psychiatrist.

I went to one quack in Evanston, a former chiropractor. When his technique became too obnoxious I told him abruptly I did not wish to finish the treatment. He was the persistent type. I kicked him in the solar plexis and told him to get out or I would call the police. He was furious but left the room muttering.

I visited a polio quack outfit on the south side. A sign on the window read "Prevention and Cure of Polio." I found a couple of men in work clothes with hammers, saws, and so on. I inquired for the doctor. One of the men put down his tools and said he was the doctor. He gave me a white gown and sent me into a booth. Then he and his partner came in and started giving me a treatment that was a cross between a chiropractic treatment and a massage. There was no nurse or receptionist. It was getting dusk, the neighborhood was a bad one, and I did not like the set-up. I got out all right but there was a little problem of trying to find out who these quacks really were. I finally got a report through Dun and Bradstreet. It turned out that the man who had actually given me most of the treatment was an air conditioning mechanic; his partner was a clean up man for the Chicago Park District.

Probably the worst of the quacks I visited was Dr. Peter B. Schyman who served a term in the Joliet Penitentiary

as an abortionist. He had an office on the south side which was the filthiest place I ever saw. He gave me the usual examination—heart, lungs, throat, chest—and then started telling me all the things that were wrong. He left the room and came back with a hypodermic needle. There are a lot of things I would do for the *Tribune* but having a dirty needle stuck into my arm by a dirty quack abortionist is not one of them. I told him that I did not want an injection but he proceeded with the injection. I then put on the most authentic case of hysterics he probably ever encountered. He concluded that I was psychopathic and I did not get the injection.

There is a sequel to this story. I did two series of articles on the quack doctor for the *Tribune*—several months apart. The first ran every day for two weeks in August and the second series ran for two weeks the following January. After my first story on Schyman, I heard he was selling the quack Kaadt cure for diabetes at \$30.00 a jug. I wanted to include him in my second series. I wanted to get a jug of his vinegar and saltpeter and because he would recognize me I concocted a plan with an investigator for the State Department of Registration and Education who was interested in getting evidence for revocation of his license. The investigator took one look at the outfit and fled. We succeeded in getting a *Tribune* photographer to buy a jug of the stuff.

One of my most interesting quacks was Dr. William Estep who specialized in atom water to cure everything from warts to Parkinson's disease. He massaged your head, uttered a lot of mumbo jumbo and fed you three cups filled with atom water for whatever ailed you. The first time one of his healers brought me in a cup of this water I dumped it into a flower pot when her back was turned. She then brought in a second and a third cup and both times she stayed until I drank it. I concluded that they were not in the business of killing off their patients and because I had no alternative and hoping it was not poison I drank it. Dr. Estep later sued the *Tribune* for a million dollars. He lost the suit and when last heard of he was a fugitive in Texas.

One little development arose when I was investigating the Drown machine. This machine was invented by a chiropractor in Los Angeles, named Dr. Ruth Drown, and was supposed to do everything—all by remote control. It is a machine that looks like a radio and is supposed to be able to tune into you wherever you are. I was informed that an osteopath in Chicago, Dr. Myrtle Farnsworth had one of these machines so I went to get a diagnosis and treatment. It really was fantastic. She diagnosed and found numerous fatal things wrong, charged me \$35.00 for the diagnosis and advised me I must come back twice a week for treatments. I informed her that I could not take the treatments since I was going to Mexico with my aunt. She assumed that I had a rich aunt and advised me that she would treat me by remote control while in Mexico. The procedure is to take a sample of blood from your finger, transfer it to a blotter, put it in the file and then whenever it comes time for your treatment the doctor simply puts the little blotter on the machine, turns the dials, tunes in your vibrations through your own little speck of dried blood, and beams the treatments to you.

After the story on Dr. Farnsworth appeared in the paper, I was informed that a physician, a member of the local medical society and a staff member of one of the large hospitals in the city, had one of these machines. Upon investigation I found he was the doctor who first introduced Dr. Drown and her machine to Chicago. When I got my second assignment on quacks he was the first person I went to see. His walls were panelled in Drown machines and instead of \$35.00 for a diagnosis he charged \$50.00. Eventually he was expelled from the Chicago Medical Society.

I did some stories on the Koch cancer cure. I found one doctor in Chicago and two in Detroit who offered to prevent or cure a long list of assorted ailments with one shot of glyoxylide and a lot of hocus pocus including bottled apple juice. All three were not only licensed physicians but members of their local medical societies. Dr. Koch, the originator of the treatment had been expelled years ago from the Michigan State Medical Society but the man who carried on his quackery as head of the Koch Clinic when I was there was still a member.

One of the problems I had during the series was to remember all the technical terms. In most cases it was impossible to take notes. I had to try to remember exactly what diplomas, if any, were on the walls and to remember as precisely as possible the terminology used, and each one was different. I succeeded in being facetious and getting the doctor to give me detailed explanations of a word. After one experience when I attempted to slip my hand in my purse to get a pencil and write a few words while the doctor was talking to me I dropped the pencil, I memorized as much as I could and later checked with Dr. Van Dellen of the *Tribune* or the American Medical Association. I usually remembered enough to write my story.

I never had a male escort with me. I usually made my visits alone except for a few times during the second series when one of the investigators from the State Department of Registration and Education worked closely with me trying to get evidence for revocations. This investigator was a woman and we collaborated and both of us usually posed as patients.

My first series got a lot of publicity including a story and picture of me in a national magazine which made the second series more difficult. One quack I went to during the second series, hurriedly took my phony name, address and brief history, and then in a very acid tone said, "My

treatment is usually \$50.00 but for you, Miss Browning, the price will be \$500."

What were my own impressions or conclusions regarding my quack investigation. First, I was disconcerted at finding some of my very best quacks members of their local medical societies. Secondly, I was startled and discouraged at much of the contents of my fan mail. I got thousands of letters and while a good many were complimentary, most of them were from devoted patients of these quacks protesting that the *Tribune* was persecuting these angels of mercy. Third, I was slightly disillusioned that nobody wanted to do very much about getting rid of the quacks. I would venture to say that the majority of the quacks the *Tribune* exposed are still in business right here in Chicago. I am sure Dr. Peter B. Schyman is still operating. I am told Dr. George Franklin Smith, Chicago's leading Koch cancer quack, is still in business.

I had wonderful cooperation from Mr. Oliver Field of the American Medical Association's Bureau of Investigation, the State Department of Registration and Education, the Better Business Bureau and the Food and Drug Administration.

I realize it is difficult to get the kind of evidence needed to expel a doctor from membership in his medical society or to revoke his license. Ethical doctors are reluctant to testify and most of the patients are no help because the ones who realize they have been swindled are too embarrassed to admit it and the rest of them obviously prefer quacks to legitimate doctors. When I started out on my quack assignment I was naive enough to think I was doing a fine public service. I am pretty sure that the next time I get an assignment to investigate quack doctors or quack anything else, I will take it merely as an assignment and not as a crusade and with a lot less idealism than I did. However, it was the most fun I had on any assignment—it was fun to do and fun to write.

One of the *Tribune's* requirements was that I be in good health so before I started my investigation I had a complete physical examination. Then every time I went to a quack who told me I had cancer of the heart, stomach, lungs or anything else, I went to one of the top specialists for a check up. Altogether, between the quacks and the ethical doctors I have had enough examinations to last a while and have turned out to be the healthiest specimen that ever walked into a doctor's office. Even if that had been the only thing I got out of doing the series, I still think it would have been worth it.

